

**RCRA Facility Investigation Report Phase II
Former BASF Huntington Works Facility
Huntington, West Virginia
EPA Facility ID WVD000068601**

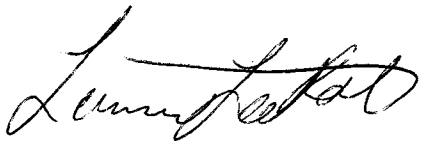
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EXECUTIVE SUMMARY

This RCRA Facility Investigation (RFI) Phase II Report has been prepared on behalf of BASF Corporation (BASF) for the former BASF Huntington Works Facility located in Huntington, West Virginia. The RFI Phase II Report presents the results of the RFI Phase II investigation completed in July 2009. The investigation was completed based on the scope of work in the November 2008 RFI Phase II Field Sampling Plan and Quality Assurance Project Plan. The RFI Phase II included an initial soil investigation of three former/existing site features: (1) Former Process Sewers (AOC 2), (2) On-Site Wastewater Treatment System (AOC 5); and (3) Former Above Ground Storage Tanks (AOC 6). A ground water investigation was also completed to assess current ground water conditions and compare this data to data collected in 2002, 2003 and 2005, to assess any changes or trends. The objective of the RFI Phase II investigation was to characterize and evaluate soil at AOCs 2, 5 and 6 identified in the June 2000 Initial Phase RCRA Facility Investigation (IRFI) Workplan and to assess current groundwater conditions.

The former BASF Huntington Works (the site) is located at the corner of 24th Street and 5th Avenue in the City of Huntington, Cabell County, West Virginia and occupies five blocks. The entire facility, with the exception of a visitor parking lot and a grass park area (AOC 4 Former Gasoline Station), is enclosed by a fence. A full time security force controls access to the facility. Buildings, asphalt and concrete cover the majority of the facility with the exception of two areas: the former 25th Street Landfill and the Shipping and Warehouse Area.

The former 25th Street Landfill is fenced off from the public and facility (i.e. workers do not have access) and is covered by a soil cap, approximately one foot thick, and vegetation (grasses, shrub and trees). The Shipping Warehouse Area (Buildings 1, 9, 9A and 9B) is located on the northeastern block of 24th Street and 5th Avenue (Figure 2), and the block is completely fenced. The ground surface surrounding the buildings is a combination of asphalt, gravel and grass.

Unconsolidated sediments consisting of sand, silt and clay deposited in alternating layers immediately underlie the facility. The first stratigraphic unit, beginning at the ground surface, consists of dense fine grain silty clay ranging from approximately 20 to 30 feet in thickness. This deposit is underlain by a layer of very dense sand with clay and silt, and a small amount of gravel that is also approximately 20 to 30 feet in thickness. A sand and gravel deposit, approximately 10 feet thick, underlies the silty sand and extends to bedrock, which is present at a depth of approximately 55 to 60 feet below ground surface (bgs).

Ground water at the facility occurs in the unconsolidated alluvial sediments at depths of approximately 23 to 32 feet below grade, under unconfined (water table) conditions. The potentiometric ground water elevation at the site is approximately 524 feet MSL. The ground water table flow direction is generally to the north toward the Ohio River. The average hydraulic gradient for the site has ranged from 0.0004 to 0.0025 feet/foot (ft/ft) based on ground water depth measurements conducted from 2002 to 2009. The hydraulic conductivity (K) of the aquifer ranges from 1.082×10^{-2} to 1.934×10^{-2} cm/sec (31-55 ft/day), based on hydraulic (slug) tests conducted during the February 2003 ground water investigation. Based on the measured hydraulic gradient and conductivity, and an assumed porosity of 0.3, the ground water velocity is calculated to range from 0.04 ft/day to 0.46 ft/day, with an average velocity of 0.15 ft/day.

The site has been an active dyestuffs and pigment manufacturing facility since 1912. The site was constructed in 1909 and manufacturing began in 1912. Standard Ultramarine Company (SUCo) operated the facility from 1912 to 1964. Between 1962 and 1964, the company merged with the Holland Colors and Chemical Company and the facility became known as Holland-SUCo Color Company. In 1964 the facility was acquired by Chemetron Corporation and operated under that name until 1979 when the facility was acquired by the Pigments and Dyestuffs Division of BASF Wyandotte Corporation. BASF Wyandotte Corporation was renamed BASF Corporation in 1986 and the facility became the Huntington Works of BASF Corporation. In 2004, the facility operated under the ownership of Flint Group Pigments (owned by XSYS Printing Systems) after Flint Group

Pigments was formed by the merger of BASF Printing Systems and ANI Printing Inks following their respective acquisitions at the end of 2004 by CVC Capital Partners (a private equity firm).

The site was entered into a facility-lead corrective action program in 1999 in response to the EPA identification of the site as one of EPA Region III's "high priority" RCRA Corrective Action sites. Under the EPA RCRA Corrective Action program, the facility was evaluated by the WVDEP in July 1999 using the EPA EIs to: (1) assess whether current human exposures to any contamination that may be present are acceptable; and (2) determine whether any contaminated ground water that may be present is stable. The results of the inspection reported that although the facility is considered "a model facility in terms of [current] environmental practices", more information regarding the possible effects of historical operations on soil and ground water was needed to make the EI determinations. BASF agreed to enter into a facility lead corrective action as documented in BASF's December 7, 1999 Commitment Letter.

In 2000 BASF prepared the Initial RCRA Facility Investigation Workplan, and in 2003 prepared a Workplan Addendum for the first phase (Phase I) of the facility investigation. The objectives of the initial phase RFI were to collect the necessary facility information and environmental data to determine if the EPA EIs were achieved at the BASF facility and to assess the need for additional investigation or potential corrective action measures.

The initial RFI (Phase I) was completed to address the EPA RCRA Corrective Action Program EIs, "Current Human Exposures Under Control" and "Migration of Contaminated Ground Water Under Control". The objectives of the initial RFI were to collect the necessary facility information and environmental data, to determine if the EPA EIs were achieved at the site and to assess the need for additional investigation or potential corrective action measures. The initial RFI Workplan identified eight soil AOCs, of which five (AOC 1 25th Street Landfill, AOC 3 Onsite Railroad Line, AOC 4 Former Gasoline Station, AOC 7 Electrical Transformers and AOC 8 Former Coal Storage Area) were

investigated to assess whether current human exposures to any contamination that may be present are acceptable. A ground water investigation was conducted to determine whether any contaminated ground water is present and if it is stable.

Results of the initial RFI were reported to the EPA in the August 13, 2003 IRFI Report and the September 20, 2005 Supplemental Ground Water Investigation Results letter report to the EPA. The data from the initial RFI was evaluated against applicable remedial standards (September 2001 Region III RBCs and WVDEP de minimis criteria) and evaluated to determine if the EPA EIs were achieved at the site.

No further action was recommended for soil at the following AOCs: former 25th Street Landfill (AOC 1); on-site rail lines (AOC 3); former gasoline station (AOC 4); electrical transformer (AOC 7) and the former coal storage areas (AOC 8). The soil data supported the conclusion that the detected concentrations of contaminants are within acceptable risk-based levels for the current usage of the facility, and the EI for Human Exposure was achieved for soil.

The EI for "Ground Water Migration Under Control" and "Current Human Exposures Acceptable" were also achieved for the ground water pathway. Specifically:

- Trends in the concentrations of chlorinated VOCs showed the levels were either declining or stable. There is no expansion of the chlorinated VOC plume, and the migration of ground water containing chlorinated VOCs is under control.
- Trends in the concentrations of BTEX in up gradient well TMW-4S were declining. There is no expansion of the BTEX plume and migration of contaminated ground water containing BTEX is under control.
- Transport velocities calculated for SVOCs in TMW-4S using site-specific retardation factors are so slow as to make the SVOCs essentially immobile.

- There is no current or prospective use of potable water in Huntington, West Virginia. Combined with the results of the Johnson and Ettinger modeling showing that there is not an unacceptable risk to down gradient receptors via the vapor intrusion to indoor air pathway, the Human Exposure EI for ground water is achieved.

The objective of the RFI Phase II was to characterize soil conditions at the three AOCs not included in the initial RFI: (1) AOC 2 Former Process Sewers, (2) AOC 5 On-Site Wastewater Treatment System, and (3) AOC 6 Aboveground Storage Tanks, and to determine if current ground water conditions were consistent with the trends observed from 2002 through 2005, when the EI determinations were made. The scope of the Phase II RFI was proposed in the November 2008 Phase II RCRA Facility Investigation Field Sampling Plan (ELM. 2008a).

A total of 45 soil samples were collected from three soil AOCs (AOC 2, AOC 5, and AOC 6) and analyzed for Appendix IX parameters. An additional ground water monitoring well (TMW-12D) was installed approximately 80 feet down gradient of the site's northern property line, and samples were collected from 11 ground water monitoring wells and analyzed for Appendix IX parameters.

The results of the RFI Phase II investigation were evaluated against the following applicable remedial action standards:

- WVCSR 60-3 Voluntary Remediation and Redevelopment Rule, De Minimis Standards for Industrial Soils and Migration to Ground Water, Table 60-3B
- EPA Human Health Regional Screening Levels (RSLs) for Industrial Soil, December 2009
- WVCSR 60-3 Voluntary Remediation and Redevelopment Rule, De Minimis Standards for Ground Water, Table 60-3B

The investigation of the former process sewer lines (AOC2) consisted of installing twenty soil borings throughout the central and western portion of the facility.

Constituents were found at levels greater than the WVDEP ISDMS in three locations:

1. Arsenic was found at a concentration of 48.1 mg/Kg at AOC2-04 (ISDMS of 27 mg/Kg);
2. TCE was found at a concentration of 2.3 mg/Kg at AOC2-17 (ISDMS of 0.92 mg/Kg);
and
3. Arsenic, lead, TCE, 1,2,4-trichlorobenzene, and PCBs were found at levels greater than their respective ISDMS at location AOC2-18. It is to be noted that there were elevated detection limits for several constituents in this sample, so it is possible that other constituents may have been present at levels greater than their ISDMS. The concentration of PCBs (3,400 mg/Kg) was also above the EPA level for applicability of the Toxic Substances Control Act (TSCA) regulations for site cleanup.

Additionally, low levels of metals and SVOCs were found at concentrations exceeding the WVDEP MGWDMS. However, with the exceptions of location AOC2-16, where aniline was found at 61 mg/Kg at a depth of 11 to 11.5 feet, and the locations at which the WVDEP ISDMS were exceeded (see below), the results do not support a conclusion that an adequate mass of constituents is present to create an impact to ground water.

Additional soil sampling is recommended for AOC 2 at the three locations at which constituents were found at levels greater than the WVDEP ISDMS and in the location where elevated aniline levels were found.

The investigation of the wastewater treatment system tanks (AOC 5) consisted of installing six soil borings to a depth of approximately 25 ft bgs. One soil sample was collected from

each boring at the 6-inch interval at a depth approximately 6 inches beneath the invert of the tanks, biased toward elevated PID reading and visual evidence of contamination.

No contaminants were detected at concentrations exceeding the WVDEP ISDMS, although the WVDEP MGWDMS were exceeded in three locations.

No further investigation of AOC 5 is recommended. No constituents were found at levels greater than the WVDEP ISDMS. Although arsenic was detected in every sample at concentrations greater than the EPA SSL, the concentrations of arsenic found are well within the range of naturally occurring arsenic in West Virginia soils. The PCBs detected in soil are not pervasive and are only slightly above the WVDEP MGWDMS. There is no evidence of any significant mass of PCBs in the subsurface that could represent a source of dissolved-phase PCB concentrations such that the MCL or WVDEP GWDMS would be exceeded.

The investigation of the AST area (AOC 6) consisted of installing sixteen borings in locations adjacent to the former ASTs. The borings were completed to a depth of approximately 8 ft bgs. One sample was collected from each boring from native soil at a depth of 6 to 12 inches below ground surface or from the six-inch interval of native soil with the highest PID reading or showing evidence of odors or staining.

All soil samples were analyzed for RCRA Appendix IX analytical parameters; samples from borings AOC6-05 and AOC6-06 were also analyzed for ethylene glycol and samples from borings AOC6-14, AOC6-15 and AOC6-16 were also analyzed for total petroleum hydrocarbon (diesel range organics). Field analysis for pH was conducted on soil samples collected from borings AOC6-01 through AOC6-06, and AOC6-09 through AOC6-13.

The WVDEP ISDMS were exceeded at only one location, located adjacent to the former toluene and xylenes AST areas. At this location, ethylbenzene (18,000 mg/Kg), toluene (6,100 mg/Kg) and total xylenes (12,000 mg/Kg) were found in the 2.0 ft depth interval.

Several VOCs, SVOCs, PCBs and metals were also found intermittently at levels greater than the WVDEP MGWDMS. The most significant of these was the aniline at locations AOC6-07, AOC6-08, AOC6-09 and AOC6-10, with concentrations ranging from 35 to 120 mg/Kg at depths of 2.0 to 6.5 ft.

No concentrations of diesel range TPH or ethylene glycol exceeded the WVDEP ISDMS.

Additional soil sampling is recommended for the locations where elevated aniline concentrations were found.

A ground water sampling event was completed in July 2009 and all site monitoring wells, including the new well (TMW-12D), were sampled.

The ground water results for July 2009 are consistent with the results from 2002 to 2005, and further document the trends in ground water concentrations observed over the earlier time period. Additionally, the results from the new well, TMW-12D, show that, within a relatively small distance from the northern, down gradient property boundary, the concentrations of all constituents in ground water approach or achieve their respective MCLs, and, with the one exception of 1,1,2,2-tetrachloroethane, approach or achieve the WVDEP GWDMS.

Consistent with previous sampling results, chlorinated VOCs, primarily trichloroethene and cis-1,2-dichloroethene, were detected at concentrations above the WVDEP GWDMS in deep monitoring wells in two locations on the site:

- 1) On the northern, down gradient portion of the site, in monitoring wells TMW-1D, and TMW-12D; and
- 2) Within the 25th St. Landfill area in monitoring wells TMW-5D and TMW-7D.

Also similar to previous results, aromatic VOCs (ethylbenzene and total xylenes) and several SVOCs (aniline and n-nitrosodiphenylamine) were detected in shallow monitoring wells located in the southern, up gradient portion of the site, TMW-4S and TMW-11S, at concentrations above the WVDEP GWDMS.

The 2009 ground water sampling results support the conclusion that the extent of dissolved-phase constituents is stable or declining. As presented in Tables 35 and 36:

- Concentrations of TCE, the parent chlorinated VOC, have declined by approximately 75% between 2002 and 2009 in TMW-1D. During all sampling events, degradation products were present, supporting the conclusion that biodegradation was occurring via reductive dechlorination.
- Concentrations of TCE, the parent chlorinated VOC, have declined by 50% and 40% in TMW-5D and TMW-7D, respectively, since the 2005 sampling event.
- BTEX and aniline levels in monitoring well TMW-4S increased from the levels found in 2005, but remain substantially less than the concentrations found in 2002 and 2003.
- BTEX levels in TMW-11S were substantially lower than those found in 2005.

There is no apparent source of the chlorinated VOCs found in either the down gradient portion of the site or the 25th Street Landfill. The highest dissolved-phase concentrations of TCE are consistently well below 1% of the aqueous solubility of TCE. Additionally, dissolved-phase concentrations have continuously declined since sampling began, which would not be predicted if there were any substantial source area mass.

Therefore, it can be concluded that the dissolved-phase chlorinated VOCs are a combination of sorbed and dissolved-phase constituents, with the sorbed and dissolved phase masses a function of localized partitioning. Based on site-specific calculations, the

partitioning of sorbed to dissolved phase is approximately 15:1. Given the presence of both sorbed and dissolved-phase constituents, and the preferential partitioning to the sorbed phase, it can be predicted that while dissolved-phase concentrations will continue to decline, it may be some time before the EPA MCL for all constituents are achieved.

The extent of the dissolved-phase aromatic VOCs and SVOCs in the shallow up gradient wells is stable or declining. As discussed previously, the aromatic VOCs have relatively high octanol/water partitioning coefficients (K_{ow}), and with the relatively high f_{oc} measured in soil (0.009), retardation rates are high, limiting the down gradient transport of these constituents. Additional soil sampling is proposed to further assess the source(s) of the constituents found in these wells.

Based on the ground water results from the 2009 sampling event, no additional ground water monitoring wells are proposed. However, it is possible, based on the results of the proposed supplemental soil investigation, that wells may be proposed in the future. A semi-annual ground water sampling program is proposed for the site to continue to monitor and assess ground water conditions.

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- Appendix 7: Laboratory Deliverable for 07/15/2009
TestAmerica Job # A9G160162 (Bound Separately)
- Appendix 8: Laboratory Deliverable for 07/22/2009
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- Appendix 9: Laboratory Deliverable for 07/23/2009
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- Appendix 10: Laboratory Deliverable for 07/24/2009
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TestAmerica Job # A9G240125 Revised (Bound Separately)
- Appendix 13: Laboratory Deliverable for 07/24/2009, Results Only
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1.0 INTRODUCTION

This RCRA Facility Investigation Phase II (RFI Phase II) Report has been prepared for the former BASF Corporation, Inc. (BASF), Huntington Works Facility located in Huntington, West Virginia. The report presents the results of the RFI Phase II investigation conducted in July 2009. The investigation was performed in accordance with the RCRA Facility Investigation Phase II Field Sampling Plan (FSP) and RCRA Facility Investigation Phase II Quality Assurance Project Plan (QAPP) prepared by The ELM Group, Inc. of Princeton, New Jersey (ELM, formerly known as Environmental Liability Management, Inc.) (ELM, 2008a; ELM, 2008b). The FSP and QAPP were approved by the EPA in a letter dated June 29, 2009.

1.1. RFI Phase II Report Objective

The objective of this report is to present the results of the RFI Phase II activities conducted at the site in July 2009. The RFI Phase II included an initial soil investigation of three former/existing site features: (1) Former Process Sewers (AOC 2), (2) On-Site Wastewater Treatment System (AOC 5); and (3) Former Above Ground Storage Tanks (AOC 6). A ground water investigation was also completed to assess current ground water conditions and compare this data to data collected in 2002, 2003 and 2005, to assess any changes or trends. The project quality objectives identified in the November 2008 QAPP include the generation of data to characterize soil conditions at the three AOCs, determine the nature of soil contamination (if present), assess current ground water conditions, assess ground water contaminant concentration trends based on historical data and identify if further investigation and/or corrective action is required.

1.2. RFI Phase II Objective

The RFI Phase II investigation scope of work was to characterize and evaluate soil at AOCs 2, 5 and 6 identified in the June 2000 IRFI Workplan and to assess current groundwater conditions. The three soil AOCs were identified, based on a review of historical facility operations and previous environmental data, but were not included in the

initial phase RCRA Facility Investigation because they were outside the scope of assessing whether the RCRA Environmental Indicators (EIs) had been achieved (see Section 1.3).

The results of the RFI Phase II investigation were evaluated against the following applicable remedial action standards:

- WVCSR 60-3 Voluntary Remediation and Redevelopment Rule, De Minimis Standards for Industrial Soils and Migration to Ground Water, Table 60-3B
- EPA Human Health Regional Screening Levels (RSLs) for Industrial Soil, December 2009
- WVCSR 60-3 Voluntary Remediation and Redevelopment Rule, De Minimis Standards for Ground Water, Table 60-3B

The WVCSR 60-3 Voluntary Remediation and Redevelopment Rule, De Minimis Standards for Industrial Soils and Migration to Ground Water, Table 60-3B, were the primary criteria against which the soil data were compared. If, however, a detected compound did not have a West Virginia Department of Environmental Protection (WVDEP) industrial soil standard, then the compound concentration was evaluated against the EPA RSL for industrial soil. In general, the WVDEP De Minimis Standards for Industrial Soils are equivalent to or lower than the EPA RSLs.

The site is an active industrial facility that has engineering controls (fencing, security, asphalt and concrete ground cover) in place, and the controls are maintained by the facility. Therefore the industrial soil standards are more applicable than the residential standards. Detected compound concentrations were also evaluated against the WVDEP De Minimis Standard for Migration to Ground Water, since the majority of the soil samples were collected subsurface and could potentially impact ground water which is encountered at depths approximately 23 to 32 feet bgs.

Ground water data was compared to the WVCSR 60-3 Voluntary Remediation and Redevelopment Rule, De Minimis Standards for Ground Water. The De Minimis Standards for Ground Water are equal to or more stringent than the EPA RSLs and MCLs for tap water. It is noted that the regional ground water in the area of the site is not used for potable purposes, as discussed in Section 2.8 of this report.

1.3. Basis for RCRA Facility Investigation

The site was entered into a facility-lead corrective action program in 1999, in response to the EPA identification of the site as one of EPA Region III's "high priority" RCRA Corrective Action sites. Under the EPA RCRA Corrective Action program, the facility was evaluated by the WVDEP in July 1999 using the EPA EIs to: (1) assess whether current human exposures to any contamination that may be present are acceptable; and (2) determine whether any contaminated ground water that may be present is stable. The results of the inspection reported that although the facility is considered "a model facility in terms of [current] environmental practices", more information regarding the possible effects of historical operations on soil and ground water was needed to make the EI determinations. BASF agreed to enter into a facility lead corrective action, as documented in BASF's December 7, 1999 Commitment Letter.

The former BASF Huntington Works facility was not a RCRA permitted facility. The facility formerly operated a hazardous waste (drum) storage area, under Interim Status, from 1981 to 1987, but no treatment or disposal was conducted at the facility. An Interim Permit Application was submitted to the EPA on November 17, 1980 and Interim Status was approved by the EPA on August 3, 1981. BASF initially submitted a Part A RCRA permit application for the hazardous waste storage area on July 27, 1982 and subsequently submitted revised Part A permit applications on February 14, 1984 and April 26, 1984. Prior to submitting the RCRA Part B permit application, BASF decided to close the hazardous waste storage area. BASF submitted the Closure Notice to the EPA on January 21, 1987 and the Final Closure for the hazardous waste storage area was approved by the EPA on April 14, 1988. Currently, the facility is still listed as a hazardous waste

generator (EPA ID WVD00068601) and stores hazardous waste at the facility for less than 90 days.

In 2000 BASF prepared the Initial RCRA Facility Investigation Workplan, and in 2003 BASF prepared a Workplan Addendum for the first phase (Phase I) of the facility investigation. The objectives of the initial phase RFI were to collect the necessary facility information and environmental data to determine if the EPA EIs were achieved at the BASF facility and to assess the need for additional investigation or potential corrective action measures. The soil investigation component of the initial phase RFI (investigation of five of the eight identified Areas of Concern) was completed in 2002, and the ground water investigation for all of the Areas of Concern was conducted in 2002, with subsequent phases of ground water work performed in 2003 and 2005. Results of the initial phase RFI was reported to the EPA in the August 13, 2003 Initial RFI Report and the September 20, 2005 Supplemental Ground Water Investigation Results letter report.

1.4. Site Description

The BASF Huntington Works (the site) is located at the corner of 24th Street and 5th Avenue in the City of Huntington, Cabell County, West Virginia (Figure 1) and occupies five blocks. The entire facility, with the exception of a visitor parking lot and a grass park area (AOC 4 Former Gasoline Station), is enclosed by a fence. A full time security force controls access to the facility. Buildings, asphalt and concrete cover the majority of the facility with the exception of two areas: the former 25th Street Landfill and the Shipping and Warehouse Area.

The former 25th Street Landfill is fenced off from the public and facility (i.e. workers do not have access) and is covered by a soil cap approximately one foot thick (see soil borings in for AOC 1 in Attachment A), and vegetation (grasses, shrub and trees). The Shipping Warehouse Area (Buildings 1, 9, 9A and 9B) is located on the northeastern block of 24th Street and 5th Avenue (Figure 2), and the block is completely fenced. The ground surface surrounding the buildings is a combination of asphalt, gravel and grass.

1.5. Site Operation History

The site has been an active dyestuffs and pigment manufacturing facility since 1912. The former BASF facility was constructed in 1909 and manufacturing began in 1912. Standard Ultramarine Company (SUCo) operated the facility from 1912 to 1964. Between 1962 and 1964, the company merged with the Holland Colors and Chemical Company and the facility became known as Holland-SUCo Color Company. In 1964 the facility was acquired by Chemetron Corporation and operated under that name until 1979 when the facility was acquired by the Pigments and Dyestuffs Division of BASF Wyandotte Corporation. BASF Wyandotte Corporation was renamed BASF Corporation in 1986 and the facility became the Huntington Works of BASF Corporation. In 2004, the facility operated under the ownership of Flint Group Pigments (owned by XSYS Printing Systems) after Flint Group Pigments was formed by the merger of BASF Printing Systems and ANI Printing Inks following their respective acquisitions at the end of 2004 by CVC Capital Partners (a private equity firm).

The primary manufactured product at the facility has been blue pigments. Initially, SUCo only manufactured ultramarine blue pigment, and then expanded its product line in 1925 to include alkali blue, acid blue, soluble blue and fuchsine pigments. In the 1930s SUCo built additional plants at the facility to manufacture barium-based pigments and chemicals, azo pigments, phthalocyanine blue pigments, iron blue pigments and pigment intermediates. SUCo continued to expand its product line in the 1940s and 1950s, and the product lines remained relatively the same during the time period Chemetron operated the facility. In 1979, when BASF acquired the facility, the production focused on alkali blue pigment, and the other product lines (methyl violet, phthalocyanine blue and green pigments, azo pigments, iron oxide red, yellow pigments, ferrous sulfate, and red lake C) were discontinued. To date, under the operation of Flint Group Pigments, alkali blue remains the primary pigment manufactured at the facility.

1.6. Report Organization

The remainder of this RFI Phase II Report is organized as follows:

- **Section 2** provides the environmental setting of the site including regional and site geology and hydrogeology, nearby surface waters, surround land and water use.
- **Section 3** summarizes information and data results from the RFI Phase I (initial) completed for the determination of Environmental Indicators for Human Exposure and Ground Water Control.
- **Section 4** describes the site characterization and sampling methods used to complete the RFI Phase II investigation.
- **Section 5** presents background information, scope of investigation and data results for the soil investigations completed for AOC 2, AOC 5, and AOC 6.
- **Section 6** details the groundwater investigation completed, data results and analysis of current and historical data.
- **Section 7** includes conclusions developed from the investigation data and recommendations for additional investigation.
- **Section 8** provides a list of referenced documents for this report.
- **Section 9** provides a listing of acronyms, abbreviations and unit of measures for this report

Figures, tables, and attachments are included at the end of the report. Appendices containing the laboratory data reports are provided under separate cover.

1.7. Project Organization

The RCRA Facility Investigation for the former BASF Huntington Works facility is being completed by BASF. BASF agreed to enter into a facility lead corrective as documented in its December 7, 1999 Commitment Letter (Attachment B). The BASF Technical Coordinator

for the RFI is Vernon Burrows; he is a member of BASF's Corporate Ecology Group, located in Florham Park, New Jersey. As Technical Coordinator, Mr. Burrows provides oversight on all technical aspects of the investigation design and implementation, and will provide final review of any correspondences and reports before submission to the EPA and WVDEP.

ELM is the primary consultant for the RFI and is responsible for the preparation of the workplans and reports for the RFI, and the implementation of field investigations. The ELM Project Coordinator is Mr. Hank Martin and he is responsible for the coordination of all scheduling and budgeting, overall quality assurance, systems auditing and review of all the RFI Phase II before submittal to the BASF Contact, and then to the EPA and WVDEP. The ELM Project Manager is Ms. Lauren LaPort and she also served as the Field Coordinator and Quality Assurance Officer for the RFI Phase II. ELM is also responsible for the data management for the RFI Phase II which included development of a GIS database and production of tables, graphics and figures for the report.

Several subcontractors were used in the completion of the RFI Phase II field work and report preparation. Subcontracted services included soil boring, monitoring well installation and sampling, surveying, laboratory analysis and data validation. The following is a list of primary subcontractors supporting the RFI Phase II:

- Subsurface, Inc., Gauley Bridge, WV – Soil Boring Installation
- EnviroProbe Integrated Solutions, Inc., Nitro, WV - Monitoring Well Installation
- Potesta & Associates, Inc., Charleston, WV – Monitoring Well Sampling, Surveying
- TestAmerica Inc., North Canton, OH – Laboratory for Sample Analysis
- Geophysical Survey Investigations, Greensboro, NC – Subsurface Utility Clearance
- Alpha Geoscience, Clifton Park, NY – Data Validation
- Eco-First, Inc., Lesage, WV – Soil Cuttings and Purge Water Disposal

2.0 ENVIRONMENTAL SETTING

The following sections summarize the physical setting and additional information collected during the RFI Phase I and Phase II investigations. Regional and site-specific geology and hydrology information is provided. Information regarding surface waters, surrounding land use and regional water use is also provided for the evaluation of RFI results.

2.1. Regional Geology

The site is located within the Allegheny Plateau physiographic province, approximately 3,500 feet south of the Ohio River and 6,000 feet west of the Guyandotte River. The geology of this vicinity of West Virginia generally consists of interrelated deltaic and coastal plain deposits approximately 60 feet thick, which overlie bedrock of the Conemaugh Group.

The unconsolidated alluvium is comprised of sand, gravel, silt and clay sediments, and was deposited in interlayered sequences as the Ohio and Guyandotte Rivers meandered across the area currently occupied by the site and the City of Huntington. Typically, the alluvium would become thicker following each flooding event, as sediments entrained by flooding river water were deposited once the water began to recede. Coarse grain sediments such as sand and gravel tend to be deposited in migrating channels, whereas fine grain sediments such as silt and clay tend to be deposited as overbank deposits and as fill in abandoned channels.

The bedrock of the Conemaugh Group consists of interrelated deltaic and coastal plain deposits. Sandstone, siltstone and shale are the primary lithologies with associated coals and marine limestones present in the sequence. The Conemaugh varies in thickness across West Virginia but ranges between 500 and 600 feet on average.

2.2. Background Arsenic Concentrations

As discussed in greater depth in Section 5, "RFI Phase II Soil Investigation", arsenic is found at levels greater than the EPA Regional Screening Level (RSL) of 1.6 milligrams per kilogram (mg/Kg), the West Virginia Voluntary Remediation and Redevelopment Rule,

De Minimis Standards for Industrial Soils and Migration to Ground Water of 5.8 mg/Kg in soil samples collected across the site. As such, it is important to document the typical range of background arsenic concentrations in soil so that the arsenic associated with a discharge can be segregated from the arsenic that is naturally-occurring.

An effort was made to obtain any documentation available from the WVDEP or other state agency, but this was unsuccessful. The United States Geologic Service (USGS) published an evaluation of naturally-occurring metals in soil throughout the United States (Shacklette & Boerngen, 1984), but the statistical rigor of the paper was uncertain. Therefore, a literature search was conducted and a peer-reviewed study of background arsenic conditions in seven states was obtained (Vosnakis, *et al.*, 2009). In this study, a statistical analysis of over 500 background samples collected in West Virginia was conducted. The study concluded that a reasonable estimate of the upper range of naturally-occurring arsenic concentrations in surface soil in West Virginia was 15.0 mg/Kg and in subsurface soil 21.9 mg/Kg.

2.3. Site Geology

Unconsolidated sediments consisting of sand, silt and clay deposited in alternating layers immediately underlie the facility. The first stratigraphic unit, beginning at the ground surface, consists of dense fine grain silty clay ranging from approximately 20 to 30 feet in thickness. This deposit is underlain by a layer of very dense sand with clay and silt, and a small amount of gravel that is also approximately 20 to 30 feet in thickness. A sand and gravel deposit, approximately 10 feet thick, underlies the silty sand and extends to bedrock, which is present at a depth of approximately 55 to 60 feet below ground surface (bgs). Running sands were encountered at a depth of approximately 30 to 40 feet bgs during the installation of all monitoring wells. The consistency of the soils to a depth of 30 feet bgs was determined by blow counts recorded during the installation of monitoring wells during the 2002 RFI Phase I investigation.

Two soils samples were collected from the saturated soil (below the water table) at temporary well point locations WP-2 and WP-4 for soil particle size distribution during the February 2003 ground water investigation, and to determine the soil Burmister description. The soil sample collected from WP-2 (35 to 35.5 ft bgs) is a medium to fine (+) SAND, some Silt & Clay, little Gravel and soil from WP-4 (35 to 35.5 ft bgs) is a medium to fine (+) SAND, little Clay & Silt, trace Gravel based on the soil sieve analysis. The laboratory derived Burmister description is consistent with the field soil description recorded during the installation of the monitoring wells. The modified Burmister Soil Classification was used for preparing all soil boring and monitoring well logs (Attachments A and C, respectively).

2.4. Regional Hydrogeology

Ground water occurs in the unconsolidated alluvial sediments and in the Conemaugh Group under water table and confined conditions, respectively. Generally, ground water in the unconsolidated deposits moves from areas of higher potentiometric elevations to areas of lower potentiometric elevations, which are often directions similar to the slopes of the ground surface topography. Ground water flow in the unconsolidated sediments can be relatively rapid if the surface topography, and resulting potentiometric gradient, slopes steeply; conversely, flow can be slow if the surface topography, and potentiometric gradient, is relatively flat. Typically, ground water velocities within unconsolidated deposits range from a few feet to a few tens of feet per year (ft/yr).

Ground water occurring in the Conemaugh bedrock under confined conditions typically may have the potential to flow at higher rates than ground water within unconfined aquifers within unconsolidated deposits. Additionally, the direction of ground water flow within bedrock cannot reliably be predicted based on ground surface topography, but rather is controlled predominantly by the character of the potentiometric surface, orientations of the fractures and bedding planes, and the presence and distribution of matrix porosity.

2.5. Site Hydrogeology

Ground water at the facility occurs in the unconsolidated alluvial sediments at depths of approximately 35 to 45 feet below grade, under unconfined (water table) conditions. The potentiometric ground water elevation at the site is approximately 524 feet MSL. As presented in Figure 3, the ground water table flow direction is generally to the north toward the Ohio River. The average hydraulic gradient for the site, as measured between the most up gradient well, TMW-2D and the most down gradient well, TMW-1D, ranged from 0.0004 to 0.0025 feet/foot (ft/ft) based on ground water depth measurements conducted from 2002 to 2009, as summarized in the table below.

Average Site Hydraulic Gradient (TMW-2D to TMW-1D)

Date	TMW-1D GWE (ft MSL)	TMW-2D (ft MSL)	Distance Between Wells (ft)	Hydraulic Gradient (feet/foot)
July 22, 2009	523.57	524.34	830	0.0009
February 28, 2005	526.32	526.67	830	0.0004
February 22, 2003	521.71	523.77	830	0.0025
August 6, 2002	522.06	522.41	830	0.0004

The hydraulic conductivity (K) of the aquifer ranges from 1.082×10^{-2} to 1.934×10^{-2} cm/sec (31–55 ft/day). The transmissivity (T) of the aquifer was calculated to range from 7,687 to 12,720 gal/day/ft. The hydraulic conductivity and transmissivity values were derived from the completion of hydraulic (slug) testing of on-site wells. During the February 2003 ground water investigation, slug tests were completed on wells TMW-1D, TMW-3D and TMW-7D. Data were analyzed using the Bower and Rice Method to determine the hydraulic conductivity and transmissivity of the aquifer. The slug test data and graphic analysis for each well from the February 2003 investigation is enclosed in Attachment D.

Based on the measured hydraulic gradient and conductivity, and an assumed porosity of 0.3, the ground water velocity is calculated to range from 0.04 ft/day to 0.46 ft/day, with an average velocity of 0.15 ft/day.

2.6. Surface Water

The site does not have any surface water features within its boundary. The nearest surface water bodies to the BASF facility are the Ohio and Guyandotte Rivers. The facility is approximately 0.7 miles south of the Ohio River and 1.1 miles west of the Guyandotte River (Figure 1).

2.7. Surrounding Land Use

The BASF facility is surrounded by a mix of residential, commercial and industrial areas. The facility is located within the City of Huntington limits, and the area is classified as urban on the USGS Huntington Quadrangle Topography Map (Figure 1). Residential properties bound the facility to the northeast (25th Street), while industrial/commercial properties bound the facility to the north, south and west. CSX Transportation, maintains a Locomotive Shop Yard directly south of BASF, and has operated at that location since the 1920s.

2.8. Regional Water Use

Potable water for the area is supplied by the City of Huntington, which uses the Ohio River as its source. The WVDEP Division of Water Resources and the Cabell County Department of Health were contacted regarding the existence and use of private potable wells in Huntington and in the vicinity of the BASF facility. No private potable wells exist within one-mile of the facility. A well search conducted as part of the initial RFI resulted in no records for any private potable wells within the City of Huntington.

3.0 INITIAL RCRA FACILITY INVESTIGATION (PHASE I) SUMMARY

The initial RFI (Phase I) was completed to address the EPA RCRA Corrective Action Program EIs, "Current Human Exposures Under Control" and "Migration of Contaminated Ground Water Under Control". The objectives of the initial RFI were to collect the necessary facility information and environmental data to determine if the EPA EIs were achieved at the site and to assess the need for additional investigation or potential

corrective action measures. As stated in Section 1 of this report, the initial RFI Workplan prepared in June 2000, identified eight soil AOCs, of which five (AOC 1 25th Street Landfill, AOC 3 Onsite Railroad Line, AOC 4 Former Gasoline Station, AOC 7 Electrical Transformers and AOC 8 Former Coal Storage Area) were investigated to assess whether current human exposures to any contamination that may be present are acceptable. A ground water investigation was conducted to determine whether any contaminated ground water is present and if it is stable.

The soil investigation for the initial RFI was completed in June 2002 to characterize soil conditions at the five AOCs. A total of 24 soil borings were completed and a total of 28 soil samples were collected.

Ten monitoring wells were installed across the site in June 2002 and initially sampled in July 2002. Additional ground water investigations were completed in February 2003 and in January/February 2005 to further characterize ground water.

A summary of the soil and ground water samples collected for the initial RFI are summarized on Table 1. Soil sample and monitoring well locations for the initial RFI are depicted on Figure 4. Soil boring logs for the field investigation are provided in Attachment A, and copies of the monitoring well logs are provided in Attachment C. The following sections provide summary of the scope of work and results for the initial RFI.

3.1. AOC 1 25th Street Landfill

3.1.1. 25th Street Landfill History

The 25th Street Landfill was reportedly used for disposal of manufacturing residues, filter cakes, trash, building debris and discarded equipment former operators of the site (SUCo, and Chemetron). A review of historic aerial photographs from 1951 to 1988 documented that the landfill was used from approximately 1951 to 1980. Aerials from 1983 and 1988 did not depict any evidence of land disturbance.

The 1957 aerial photograph shows that the southern and southwestern portions of the property were disturbed, while the northern and eastern portions of the landfill were covered with vegetation. The filling of the southern portion of the landfill appears to have ceased by 1966 as observed from the 1966 aerial photograph. Vegetation was observed in the southern portion, while the southwestern area of the landfill still appeared to be active. The 1969, 1974, and 1980 aerial photographs show vehicles parked on the southern area and the southwestern area as being disturbed. The 1983 and 1988 aerial photographs show little change from the 1980 aerials.

It is reported that BASF contracted SMC Martin Inc. (SMC) of Valley Forge, Pennsylvania to prepare Closure Plan in 1981. However, the closure documentation was not available for review. Documentation regarding the capping/final cover of the landfill was not available for review, although it was reported to be sand and gravel. Based on the boring logs (see Attachment C) for the site, the surface cover on the former landfill is approximately one foot thick and consists of stone and dirt, covered with a mix of vegetation. The entire landfill is surrounded by a gated fence.

3.1.2. RFI Phase I Investigation Scope

Four shallow soil samples (AOC1-01 to AOC1-04) were collected to assess the current potential for human exposure to any constituents that may be present in surface soils in the landfill. At each sample location a boring was completed to four feet below ground surface and the recovered soil was logged and screened with the PID. One soil sample was collected from the 6-inch interval of soil exhibiting the highest PID reading or, if elevated PID readings were not observed, the sample was collected from the shallowest six-inch interval in which material classified as "fill material" was encountered. All samples were analyzed for TCL VOCs, SVOCs, PCBs and TAL metals.. One duplicate soil sample (AOC1-05) was collected from sample location AOC1-03. Sample locations are shown in Figure 4.

3.1.3. RFI Phase I Investigation Results

The soil investigation for the former 25th Landfill detected three compounds, hexachlorobenzene, PCBs (aroclor 1248) and arsenic, at concentrations greater than the September 2001 Region III RBCs. The concentrations at which these three compounds were found were then compared to the WVDEP de minimis criteria for industrial facilities. Hexachlorobenzene was found at a level greater than the WVDEP criterion; therefore a risk-based evaluation was completed to assess whether additional data collection and/or remedial action were needed to achieve compliance with the EIs.

An evaluation of potential exposure pathways existing current conditions was completed and it was concluded that no further action was necessary to confirm that the EI for Human Exposure is achieved in the landfill. With the exception of the hexachlorobenzene found in AOC 1, all constituents were present at concentrations lower than their respective WVDEP de minimis criterion for industrial settings, signifying that, pursuant to WVDEP regulation, uncontrolled exposure to these constituents in an industrial environment would not represent an unacceptable human exposure. Engineering controls currently exist and are maintained by facility personnel, thereby preventing direct contact exposure to any constituent and ensuring that potential exposure pathways are incomplete. Further, no constituent detect in the soil samples for AOC 1 is found in ground water.

3.2. AOC 3 Onsite Railroad Line

3.2.1. Onsite Railroad Line History

The on-site railroad lines have been present at the facility since it was developed in 1909. A 1968 historic map of the facility identified unloading stations along the railroad tracks on the southern portion of the facility, supporting a conclusion that the rail lines were used to transport raw materials to the facility. Unloading areas used by BASF and subsequent owners, including the rail unloading areas, are operated in accordance with the facility's Spill Prevention Control and Countermeasures (SPCC) Plan. The SPCC Plan documents controls that are used to control spills and releases, and provides the procedures to record

any spill or release. The SPCC requirements were originally promulgated in December 1973 under the Clean Water Act, which is prior to BASF ownership of the facility. Interviews with both BASF personnel and representatives of subsequent property owners determined that, to best of the facility personnel's knowledge, the rail unloading areas have been operated in accordance with the facility's Spill Prevention Control and Countermeasures (SPCC) Plan since BASF's ownership of the facility in 1979.

3.2.2. RFI Phase I Investigation Scope

Seven soil samples (AOC3-01 to AOC3-07) were collected from the on-site railroad track loading/unloading areas as shown on Figure 4. The FSP proposed soil locations where no asphalt was present; however the entire area is covered with asphalt or concrete, and no exposed soil was present. Therefore, soil borings were completed at loading/unloading areas near the railroad track spur. A total of seven soil borings were drilled to four feet below ground surface and field screened with a PID. One soil sample was collected from each location at the 6-inch interval with the highest PID reading or, if no elevated PID reading was observed, the sample was collected from the first 6-inch interval of natural soil immediately below the asphalt and gravel base.

The seven soil samples (AOC3-01 to AOC3-07) were analyzed for TCL VOCs, SVOCs, PCBs, and TAL metals. One duplicate soil sample (AOC3-08) was collected with sample AOC3-03. Sample designation AOC3-09 was used to identify a soil performance evaluation (PE) sample submitted to the laboratory for QA/QC and was not a soil sample collected in the field.

3.2.3. RFI Phase I Investigation Results

Soil samples AOC3-01 through AOC3-07 were collected from the on-site railroad track loading/unloading areas and analyzed for TCL VOCs, SVOCs, PCBs, and TAL metals. Three compounds, TCE, hexachlorobenzene and arsenic, were detected in the soil samples at concentrations above the September 2001 Region III RBCs, but below the WVDEP de minimis risk-based industrial criteria. It was concluded in the August 2003 Initial Phase

RFI Report that the EI for human exposure was achieved, and no further action for the onsite rail line area was proposed.

3.3. AOC 4 Former Gasoline Station

3.3.1. *Former Gasoline Station History*

Historical information regarding the former gasoline station is based on a review of Sanborn Maps (1931, 1938, 1950, 1954, 1963, 1965, and 1968) and aerial photographs (1938, 1950, 1957, 1959, 1969, 1974, 1980, 1983, and 1988) for the facility and surrounding area. The gasoline station was in operation prior to 1931 and the station consisted of a one-story building, with three gasoline tanks as documented on the Sanborn Maps. The Sanborn Maps do not definitive identify whether the tanks were aboveground or underground; therefore it was assumed that the tanks were underground. It is highly unlikely that bulk storage of gasoline in aboveground tanks would have been allowed by the local fire code. The 1965 and 1968 Sanborn Maps identify the gas station as an auto sales operation although the three gasoline tanks were still present on the maps. The building is no longer present in the 1974 aerial photograph, and there is no evidence of any tanks. The 1974, 1980, 1983 aerial photographs show the property was used as a parking lot, and the 1988 aerial photograph depicts the property as being vegetated with grass (existing conditions).

3.3.2. *RFI Phase I Investigation Scope*

The initial RFI FSP proposed a non-invasive geophysical survey to be completed, to determine if underground storage tanks (USTs) were present on the property. The geophysical survey was completed by Schnabel Engineering Associates, Inc. (Schnabel) of Greensboro, North Carolina. The work plan stated that if the results of the geophysical survey supported the conclusion that one or more USTs was present on the property, then soil borings would be completed.

3.3.3. RFI Phase I Investigation Results

A non-invasive geophysical survey was completed to determine if underground storage tanks (USTs) still existed on the property in June 2002. The geophysical investigation was completed by performing an electromagnetic (EM) induction survey, and ground penetrating radar (GPR) survey was completed on selected areas based on the results of the EM survey. The geophysical survey did not detect any underground storage tanks (USTs) at the former gasoline station area. Since no evidence of underground storage tanks was documented, no further investigation of the AOC was conducted. Based on the geophysical survey, it was concluded that the Human Exposure EI was achieved and the August 2003 Initial Phase RFI Report proposed no further action for the former gasoline station.

3.4. AOC 7 Electrical Transformers

3.4.1. Electrical Transformers History

Based on review of BASF records for the facility, several PCB-containing electrical transformers were previously in service. However no information regarding the use and PCB content of transformers at the facility prior to BASF was available for review. Currently, the facility has three transformers at the facility: the west side of Building 42, the east side of Building 50, and the east side of Building 69. All three transformers are located on concrete pads with dikes and fencing surrounds the dikes. The operation and maintenance of the transformers are included in the facility's SPCC Plan.

3.4.2. RFI Phase I Investigation Scope

Three electrical transformers, located on concrete pads within fenced enclosures, are currently present at the facility. The transformers, concrete pads and surrounding soils were visually inspected for evidence of leakage; no staining of either the transformers or the soil was observed. A total of nine soil samples (AOC-01 to AOC7-09) were collected from soil at the base of the concrete pads surrounding on-site electrical transformers (Figure 4). All soil samples were collected from 0.5 to 1.0 ft bgs and analyzed for PCBs.

3.4.3. RFI Phase I Investigation Results

PCBs were detected in only one sample, AOC7-07. Aroclor 1254 was detected at 0.436 mg/kg, which was below both the September 2001 Region III RBC and the WVDEP de minimis level of 1.4 mg/kg and 1.0 mg/kg, respectively. Based on the PCB results from the soil investigation for AOC 7, it was concluded that the Human Exposure EI had been achieved and the August 2003 Initial Phase RFI proposed no further action for the electrical transformers, no further action is warranted.

3.5. AOC 8 Former Coal Storage Area

3.5.1. Former Coal Storage Area History

The former coal storage areas were located adjacent to the former pot kiln building (H-4 or -6) and the boiler/pump room (R-5 or Bldg. 71). Both storage areas were next to railroad tracks, supporting a conclusion that coal may have been delivered to the storage areas by rail cars. The Sanborn Maps document that the storage areas were part of the original SUCo facility and remained until the former pot kiln building and boiler/pump room were demolished by BASF in 1985.

3.5.2. RFI Phase I Investigation Scope

Soil borings were proposed in the area of the former coal storage areas, to determine if the historic coal storage activities on the northern portion of the property (Figure 4) had resulted in the presence of one or more constituents at levels greater than EPA and WV criteria. No soil samples were proposed to be collected at the former coal storage area on the southern portion of the facility near the boiler/pump room (R-5 or Bldg. 71). The area of this former coal storage area is covered with asphalt; therefore there is no potential for human exposure under current conditions.

Two soil borings (AOC8-01 and AOC8-02) were installed to characterize the former coal storage area on the northern portion of the property. The former coal storage area and adjacent Building 1 no longer exist; however the footprint of the former structures was

observed. The two soil borings were each drilled to 4 feet below ground surface adjacent to the former coal storage area. At each soil boring location two soil samples were collected. The first sample was collected from the first six-inch interval of native soil. The second (deeper) soil sample was collected from a six-inch interval where coal fragments were observed. The four soil samples were analyzed for TCL PAHs and TAL metals.

3.5.3. RFI Phase I Investigation Results

PAH compounds were not detected in any of the four soil samples. As with the other AOCs, except for arsenic found at background levels, metals were either not detected or were detected at concentrations below the applicable September 2001 Region III RBC in the four soil samples. All detected metal concentrations, including arsenic, were detected below the WVDEP de minimis values for industrial soil. It was concluded that the Human Exposure was achieved, and the August 2003 Initial Phase RFI report proposed No further action for the former coal storage area.

3.6. Ground Water

3.6.1. Ground Water Historical Data

Ground water data for the facility prior to the RFI was limited to one ground water sampling event completed for the 25th Street Landfill as part of the landfill closure plan. In March 1981, ground water samples were collected from four former monitoring wells, MW1-25, MW2-25, MW3-25 and MW4-25, on the landfill. As shown on Figure 5, the monitoring wells were reported to contain low to moderate levels of several chlorinated VOCs, including trans-1,2-dichloroethylene, 1,1,2,2-tetrachloroethylene, methylene chloride, and trichloroethylene. Low levels of several metals, including barium, copper, chromium, iron and silver were also detected.

3.6.2. RFI Phase I Investigation Scope

The initial RFI ground water investigation was completed in several events. The first event, occurring in June and August 2002, consisted of the installation and sampling of ten

monitoring wells. Based on the results of the 2002 of the investigation, nine additional temporary wellpoints were installed in February 2003 and sampled along with a select group of the previously-installed monitoring wells. At this time, slug tests were conducted on three wells. A third phase of investigation was conducted in 2005 and consisted of installing an additional shallow monitoring well (TMW-11S) and sampling of seven monitoring wells in February/March 2005. The results of the Initial RFI ground water investigation were reported to the EPA in the August 2003 Initial RFI Report and September 2005 Supplemental Ground Water Investigation Report. Also included in the September 2005 Supplemental Ground Water Investigation Report were the results of vapor intrusion modeling using the Johnson and Ettinger model (Johnson, 2002) evaluating the potential impacts of vapor intrusion of chlorinated hydrocarbons from ground water to buildings.

A summary of the ground water results from 2002 to 2005 is provided on Figures 5, 6 and 7, and Tables 2, 3 and 4. Copies of the monitoring well and temporary well point logs are provided in Attachment C and ground water contours for the three sampling events in 2002, 2003 and 2005 are provided in Attachment E.

3.6.3. RFI Phase I Investigation Results

As presented in the September 2005 Supplemental Ground Water Investigation Report and the August 2003 Phase I IRFI Report, four general categories of constituents were found at the site at concentrations exceeding WVDEP *de minimis* standards for Ground Water (Table 60-3B) and EPA Drinking Water Standard Maximum Contaminant Levels (MCLs, which are the same as WVDEP CSR12 Requirements Governing Groundwater Standards):

- Chlorinated VOCs found in and adjacent to the 25th Street Landfill (TMW-5D and TMW-7D) and at the down gradient property boundary (TMW-1D);
- Aromatic compounds, benzene, toluene, ethylbenzene and xylenes (BTEX), found along the rail line area (TMW-4S and TMW-11S);

- Semivolatile organic compounds found along the rail line area (TMW-4S and TMW-11S); and
- Arsenic (TMW-4S) and iron (TMW-4S and TMW-11S) found along the rail line area.

Based on the three rounds of ground water monitoring data, it was concluded that:

- Chlorinated VOC concentrations are either stable (25th Street Landfill) or declining (TMW-1D in the employee parking lot area, north of the main facility). Therefore, it can be concluded that there is no expansion of the chlorinated VOC ground water plume. It was further determined that:
 - Reductive dechlorination of the dissolved-phase chlorinated constituents is occurring. The presence of cis-1,2-dichloroethene and vinyl chloride, as well as the very supportive geochemical indicators (depleted dissolved oxygen and nitrate, elevated chloride levels), strongly support the conclusion that the dissolved-phase constituents are undergoing biological degradation. Therefore, it can be predicted that the extent of chlorinated VOCs will continue to decline.
 - There is no evidence of an ongoing source of the chlorinated constituents, and no evidence that any residual source material is present. Without additional source input into ground water, it can be predicted that the current trend of declining chlorinated VOC concentrations in ground water will continue.
- BTEX concentrations in TMW-4S, located at the up gradient, southern property line, are declining as documented by the 2002, 2003 and 2005 data.
- Semivolatile organic compounds in TMW-4S are either declining or have such a low constituent transport velocity that no significant transport can occur. Based on a

site-specific retardation factor calculation, it was predicted that the SVOCs found in TMW-4S were essentially immobile.

- The BTEX, aniline and n-nitrosodiphenylamine concentrations in ground water are not migrating off-site, as documented by ground water data from TMW-3D and TMW-1D, which are downgradient of TMW-4S.
- The results of the Johnson and Ettinger modeling, submitted in the 2005 Supplemental Ground Water Investigation Report, found that there would be no unacceptable risk via the vapor intrusion to indoor air pathway to receptors down gradient of the site. The evaluation used site-specific soil characteristic data and the highest concentrations of chlorinated VOCs found in on-site down gradient monitoring wells.

Additional characterization and monitoring of ground water was recommended in the August 2003 Initial Phase RFI Report and the September 2005 Supplemental Ground Water Investigation Results letter to the EPA. Section 6 of this report presents the results of the additional ground water investigation as part of the RFI Phase II.

3.7. Summary of Initial RFI Conclusions and Recommendations

Results of the initial RFI was reported to the EPA in the August 13, 2003 IRFI Report and the September 20, 2005 Supplemental Ground Water Investigation Results letter report to the EPA. The data from the initial RFI was evaluated against applicable remedial standards (September 2001 Region III RBCs and WVDEP de minimis criteria) and evaluated to determine if the EPA EIs were achieved at the site.

The results of the initial RFI for ground water provided sufficient data to: (1) complete the EI evaluation; (2) recommend no further action for soils at the five AOCs, and (3) recommend further investigation for ground water.

No further action was recommended for soil at the following AOCs: former 25th Street Landfill (AOC 1); on-site rail lines (AOC 3); former gasoline station (AOC 4); electrical transformer (AOC 7) and the former coal storage areas (AOC 8). The soil data supported the conclusion the detected concentrations of contaminants are within acceptable risk-based levels for the current usage of the facility, and the EI for Human Exposure was achieved for soil.

The EI for "Ground Water Migration Under Control" and "Current Human Exposures Acceptable" were achieved for the ground water pathway. Specifically:

- Trends in the concentrations of chlorinated VOCs showed the levels were either declining or stable. Therefore, there is no expansion of the chlorinated VOC plume, and the migration of ground water containing chlorinated VOCs is under control.
- Trends in the concentrations of BTEX in up gradient well TMW-4S were declining. Therefore, there is no expansion of the BTEX plume and migration of contaminated ground water containing BTEX is under control.
- Transport velocities calculated for SVOCs in TMW-4S using site-specific retardation factors are so slow as to make the SVOCs essentially immobile. Therefore, there is no expansion of the SVOC plume and migration of contaminated ground water containing the SVOCs is under control.
- There is no current or prospective use of potable water in Huntington, West Virginia. Combined with the results of the Johnson and Ettinger modeling showing that there is not an unacceptable risk to down gradient receptors via the vapor intrusion to indoor air pathway, the Human Exposure EI for ground water is achieved.

4.0 RCRA FACILITY INVESTIGATION PHASE II

4.1. RFI Phase II Overview

The objective of RFI Phase II was to characterize soil conditions at the three AOCs not included in the initial RFI: (1) AOC 2 Former Process Sewers, (2) AOC 5 On-Site Wastewater Treatment System, and (3) AOC 6 Aboveground Storage Tanks, and to determine if current ground water conditions were consistent with the trends observed from 2002 through 2005, when the EI determinations were made. Results of the Phase II RFI were used to identify additional investigation areas for these three AOCs and ground water or to determine if the data supports the conclusion of No Further Action. The conclusions and recommendations are discussed in Section 5 for each soil AOC, Section 6 for ground water and in Section 7.

A total of 45 soil samples were collected from three soil AOCs (AOC 2, AOC 5, and AOC 6) and samples were collected from 11 ground water monitoring wells, as summarized on Table 5. Additionally, three duplicate soil samples (one from each AOC) and one duplicate ground water sample were collected. Field and trip blank samples were also collected. A Performance Evaluation soil sample was submitted to the laboratory as part of the soil investigation for AOC 2.

Since the completion of the RFI Phase II in July 2009, the Flint Group Pigment facility had a release of approximately 50,000 pounds of aniline from a railroad tank car in September 2009. The area of the release was located near AOC 3, AOC 6 and monitoring wells TMW-4D, TMW-4S and TMW-11S. The aniline was discharged as facility works offloaded the raw material from the railroad tanker car. The aniline that was released had flowed onto the paved surface areas and entered into a drain that was connected to the facility process sewer lines. It is noted that the release occurred after the RFI Phase II investigation; therefore data presented in this report is not affected; however future soil and ground water sampling events and data results for this area may have elevated results due this release.

4.1.1. Soil Standards

Soil data was evaluated against the WVCSR 60-3 Voluntary Remediation and Redevelopment Rule De Minimis Standards for Industrial Soils Table 60-3B (ISDMS) and the December 2009 EPA RSL. If a detected contaminant did not have a WVDEP industrial soil standard, then the contaminant concentration was evaluated against the EPA December 2009 RSL for industrial soil. The site is an active industrial facility that has engineering controls (fencing, security, asphalt and concrete ground cover) in place, and the controls are maintained by the facility. Therefore the industrial soil standards are applicable to the current and prospective land use.

The WVDEP De Minimis Standards for Industrial Soils are risk-based human health screening levels that reflects a 1×10^{-5} carcinogenic risk for industrial settings. The screening levels/standards are derived from the USEPA Region III Risk-Based Concentration Tables, and contaminant concentrations detected below these values do not present significant risk to human health. The De Minimis Standards applies to contaminants where the primary exposure routes would be ingestion of soil or ground water.

Detected soil contaminant concentrations were also evaluated against the WVDEP De Minimis Standard for Migration to Ground Water (MGWDMS) since the majority of the soil samples were collected subsurface and could potentially impact ground water which is encountered at depths approximately 23 to 32 feet bgs across the facility. The WVDEP MGWDMS are considered screening criteria that indicate the potential for an impact to ground water, but the WVDEP regulations allow for development of alternative standards for ground water protection based on site-specific conditions. As discussed in greater depth in Section 5, the comparison to the WVDEP MGWDMS was used, along with other considerations, to identify locations where additional investigation of soil was needed to assess the potential for an impact to ground water.

4.1.2. Ground Water Standards

Ground water data was compared to the WVCSR 60-3 Voluntary Remediation and Redevelopment Rule, De Minimis Standards for Ground Water (GWDMS), Table 6-3B. The values listed in this table are the highest value of the following:

- Ground water contaminant concentrations limits for West Virginia State Rule Title 46 – Series 12 (46CRS12):
- Risk-Based Concentrations developed for Table 60-3B, and
- Natural background values for inorganics.

The De Minimis Standards for Ground Water (GWDMS) are equal to or more stringent than the EPA December 2009 RSLs and MCLs for tap water. It is noted that the regional ground water in the area of the site is not used for potable purposes, as discussed in Section 2.8 of this report.

4.2. Data Acquisition/Field Sampling Methods

The RFI Phase II field sampling activities included installation of 41 soil borings and one monitoring well, subsurface soil sampling, ground water sampling, and laboratory and field analysis of soil and ground water samples. All field activities were completed in accordance with the November 2008 FSP and QAPP.

4.2.1. Soil Borings and Subsurface Soil Sampling

Soil samples were collected using a geoprobe direct-push drill rig operated by Subsurface, Inc. Clear acetate liners, 60 inches in length, were used to collect soil samples at each boring. The soils were logs in the field and all observations such as soil lithology, moisture content, visual observation fill or debris, visual observation contamination, PID readings, and sample depths were recorded on soil boring logs. Upon retrieving and opening of the acetate liners, the soil was screened with a photoionization detector (PID) for total volatile

organic vapors. VOC soil samples were collected first from the six-inch soil sample interval using a TerraCore™ sampler. The remaining soil from the six-inch sample interval was then homogenized and placed in laboratory provided glass soil jars for analysis. After each boring, the non-dedicated drill rig and sampling equipment was decontaminated between sampling locations in accordance with the Sampling Equipment Decontamination SOP in the November 2008 QAPP. Upon completion of the field investigation, field boring log data were entered into the gINT software program to produce the soil boring logs included in Attachment A.

All boring soil spoils were placed down hole after the boring was complete. As part of the field investigation, QA/QC samples such as field duplicate, field blank and trip blank samples were collected in accordance with the FSP and the QAPP. In addition, a Performance Evaluation sample was provided to the laboratory for analysis. The complete discussion of the QA/QC samples is presented in Section 4.2.4 of this report.

Prior to advancement of the soil borings, a utility mark out was conducted by Geophysical Survey Investigations at all the proposed boring locations, to prevent encountering any subsurface utilities or features during the boring activities. An electromagnetic scan using an EM61 detector and ground penetrating radar (GPR) was used to complete the subsurface utility clearance. If unknown obstructions were identified by the scans, the boring locations were adjusted to a safe location.

The horizontal locations for the soil borings were captured in the field using a Trimble Navigation Global Positioning System (GPS) receiver (Trimble GeoXH). All GPS data were then differentially corrected during post-processing operations using GPS data files from the Trimble Community Base Station at the WVDEP Nitro, West Virginia station in accordance with the WVDEP Geospatial Data Policy. The accuracy of the GPS data was routinely checked by capturing the locations of site-specific features (i.e. surveyed monitoring wells).

4.2.2. *Monitoring Well Installation and Development*

One monitoring well (TMW-12D) was installed on July 8, 2009 in accordance with the November 2008 FSP and WVDEP Monitoring Well Design Standards (47CSR60). The monitoring well was installed to characterize and evaluate ground water hydraulically down gradient of the site and TMW-1D. EnviroProbe Integrated Solutions, a licensed West Virginia well driller, installed the well using a hollow stem auger (HSA) drill rig. Construction detail for the well is provided on Table 6 as well as on the well log in Attachment C.

Continuous macro cores (5-foot lengths) were collected to document subsurface geologic conditions and to determine the appropriate screening interval for the well. The boring was advanced to refusal at approximately 54 ft bgs. Drill cuttings were continuously monitored for volatile organic vapors using a photo ionization detector (PID). No PID readings were observed from the drill cuttings during the monitoring well installation. All drill cuttings were drummed and a waste classification sample was collected for soil disposal purposes. The waste classification sample results documented the soil was non-hazardous and the facility disposed the soil with the facility's non-hazardous waste. A copy of the laboratory report is included in Appendix 1. Disposal documentation is provided in Attachment F.

The monitoring well was constructed of 4-inch diameter PVC riser and a 10-foot long, 0.01-inch slot screened interval that had a prepacked filter material surrounding the screen. The screen was installed from 44 to 54 feet bgs. Additional filter pack media, consisted of silica-based filter sand, was installed in the annular space of the screen and was extended approximately two to three feet above the top of the screen. The annular space was then filled with bentonite pellets, cement grout and then the ground surface seal consisted of bentonite-cement grout. The well was completed with a lockable plug, flush mount casing and concrete pad.

Upon installation of the well, EnviroProbe developed the well using a submersible pump. The water was purged from the well at approximately 5-gallons per minute and the water was agitated to remove sediment from the well screen and settled sediment at the bottom of the well. The new monitoring well was surveyed by Potesta & Associates, to determine the horizontal location and vertical elevation of the well top-of-casing.

During the Phase II RFI in July 2009, repairs were made to monitoring well TMW-2D, TMW-4S, and TMS-4D. The outer protective casing for TMW-2S and TMW-4D were observed to be damaged and were replaced. The protective outer cover and inner casing for TMW-4S were also damaged and repaired. The top-of-casing elevation for TMW-4S was resurveyed by Potesta & Associates, and the new casing elevation is noted on Table 6 and on the ground water sampling report for July 2009 (Attachment G).

4.2.3. *Monitoring Well Sampling*

All site monitoring wells were sampled on July 22, 23 and 24, 2009 as part of the Phase II RFI, using EPA low-flow purging and sampling methods as outlined in the November 2008 FSP and QAPP. The monitoring wells were sampled by Potesta & Associates Inc. Prior to purging and sampling the wells, the depth to water was measured in each well. A flow through cell was used to measure field parameters (pH, temperature, DO, conductivity, turbidity and ORP) and assess ground water quality stabilization. Upon purging and stabilization of ground water, the flow-through cells were disconnected from the sampling tubing and samples were collected using glass sample vials/jars provided by the laboratory. VOC sample was collected first and then the samples for SVOCs, dissolved gases, metals and anions were collected subsequently.

Purge water from monitoring wells TMW-4S and TMW-11S was drummed for off-site disposal due to the known high VOC concentrations at these two wells. The purge water was disposed off-site by Eco-First, Inc., and the disposal documentation is provided in Attachment F. The laboratory data from the sampling of these two wells was used to characterize the purge water for disposal.

4.2.4. QA/QC Sampling

Equipment blanks, trip blanks, field duplicate, performance evaluation, matrix spike, and matrix spike duplicates samples were collected for QA/QC purposes as outlined in the November 2008 QAPP. The following sections provide a brief summary on the QA/QC samples utilized for the Phase II RFI.

Field Duplicate Samples

Field duplicates provide a measure of overall sampling and test method precision as well as sample heterogeneity. Field duplicate samples were collected from each AOC at a frequency of one per 20 samples collected at each AOC (i.e. one per each AOC). The duplicate samples were collected simultaneously or in immediate succession, using identical recovery techniques, and treated in an identical manner during storage, transportation, and analysis. The field duplicate samples were labeled so the laboratory did not know the samples were duplicates so the potential for analytical bias was eliminated. The table below identifies the field and duplication sample ID, and the analyses completed.

Field Duplicate Sample Identification

Field Sample	Duplicate Sample	Analyses
AOC2-03-8.0	AOC2-21-8.0	VOCs, SVOCs, PCBs, Metals
AOC5-02-20.0	AOC5-07-20.0	VOCs, SVOCs, PCBs, Metals
AOC6-03-1.0	AOC6-22-1.0	VOCs, SVOCs, PCBs, Metals
TMW-4D	TMW-10	VOCs, SVOCs, Metals, Dissolve Gasses, Anions

The precision measurement is determined using the relative percent difference (RPD) between the sample and duplicate sample results. The calculated RPD for detected compounds for the duplicate samples are provided in the data validation reports for the

laboratory data packages A9G150161, A9G100171, A9G160162 and A9G240125 (Attachment H).

Equipment Blanks

Equipment blanks were collected and used for internal data quality control for evaluating field and laboratory performance. Analytical results for the equipment blank samples are summarized on Tables 7 through 10. Equipment blanks were collected to assess the effectiveness of equipment decontamination procedures. Low concentrations of acetone, 2-butanone, benzene, chloroform, toluene and xylenes were detected in several of the equipment and equipment blanks from the July 2009 soil and ground water sampling events. Bis(2-ethylhexyl)phthalate and acetophenone were detected in several equipment blanks. Additionally, low concentrations of several metals (antimony, arsenic, barium, chromium, thallium and zinc) were detected in several of the equipment blanks.

Field blanks collected with soil samples were labeled as FB-MMDDYY, such as FB-071309 for the field blank collected on July 13, 2009. Field blanks collected with the ground water samples were labeled in the field as Field Blank MM-DD-YY (sampling date) and were then converted to the nomenclature for the soil field blanks in the EQuIS database and on the tables. The table below summarizes the field and trip blank ID changes. The EQuIS database ID is used in this report and on the data tables.

Summary of Field Blank Sample ID Changes

Field Sample ID	Sample Date	EQuIS Database ID	Laboratory Sample ID
Field Blank 7-22-09	7-22-09	FB-072209	A9G230196002
Field Blank 7-23-09	7-23-09	FB-072309	A9G240125006
Field Blank 7-24-09	7-24-09	FB-072409	A9G250133004

Trip Blanks

Trip blanks were collected for internal data quality control for evaluating field and laboratory performance to assess the potential introduction of contaminants from sample containers or during the transportation and storage procedures. One trip blank was included in each cooler of samples sent to the laboratory for VOCs analysis. A total of seven trip blanks were analyzed for VOCs as part of the Phase II RFI. As noted in Section 7.2.2 of this report, a trip blank was not included in the cooler with samples collected on July 15, 2009 (TestAmerica Lot # A9G160162). VOC results for all trip blanks are presented on Table 11. Acetone was detected in two of the trip blanks (TB-071409 and TB-072309) and isobutyl alcohol was detected in one the trip blanks (TB-072309).

The sample IDs for trips blanks (TB and Trip Blank) were converted to the sample ID format of TB-MMDDYY in the EQUIS database. The table below summarizes the field and trip blank ID changes. The EQUIS database ID is used in this report and on the data tables.

Summary of Trip Blanks Sample ID Changes

Field Sample ID	Sample Date	EQUIS Database ID	Laboratory Sample ID
TB	7-09-09	TB-070909	A9G100171002
TB	7-10-09	TB-071009	A9G110141002
TB	7-13-09	TB-071309	A9G150161002
TB	7-14-09	TB-071409	A9G150150002
Trip Blank	7-22-09	TB-072209	A9G230196004
Trip Blank	7-23-09	TB-072309	A9G240125008
Trip Blank	7-24-09	TB-072409	A9G250133006

Performance Evaluation Samples

Soil Performance Evaluation (PE) samples were sent to the laboratory as blind samples to evaluate the laboratory's performance. The PE samples for VOCs, SVOCs, PCBs and metals were purchased from Environmental Resource Associates of Arvada, CO. The PE samples, identified as AOC2-22-10.0 on the sample chain-of-custody, were sent to TestAmerica for

VOCs, SVOCs, PCBs and metals analysis. Analytical results and the ERA certified values for PE sample are summarized in Tables 12 through 14, and the tables only included compounds listed in the ERA Certified Value reports and not the full Appendix IX list for VOCs, SVOCs, PCBs and metals. The laboratory data report for the sample analysis is provided in Appendix 5 and a copy of the ERA Certificate of Analyses is provided in Attachment I. The VOC, SVOC, PCB and metals results for all compounds except for four, were within the 95% confidence level (performance acceptance limits) with minor exceptions. Compounds not meeting the 95% confidence level include bromoform, tetrachloroethene, lead, and thallium.

Matrix Spike and Matrix Spike Duplicates

The MS/MSD samples were used to evaluate the potential effect of the matrix of the sample on the laboratory analysis. MS/MSD samples also provide an indication of precision and accuracy. The one set of matrix spike/matrix spike duplicates was collected at AOC 2 and during ground water sampling. MS/MSD samples were collected with soil sample AOC2-04-7.5 (TestAmerica Report A9G150161, Appendix 4) and ground water sample TMW-5D (TestAmerica Report # A9G250133, Appendix 10).

4.3. Laboratory Sample Analysis

Soil and ground water samples collected for the RFI Phase II were analyzed for RCRA Appendix IX list for VOCs, SVOCs, PCBs, and metals, total petroleum hydrocarbons diesel range organics (TPH-DRO), and ethylene glycol using EPA SW-846 methods as summarized on Table 15. The laboratory data packages for the RFI Phase II investigation are provided in Appendices 1 through 13. All samples were transported to the laboratory and analyzed within the USEPA Region III holding times.

The VOC list was expanded to include 1,4-dioxane, and the SVOC list was expanded to include benzidine, 1,2-diphenylhydrazine, and 3,3'-dimethoxybenzidine. The additional three SVOC compounds are specific to the pigment and dye industry. Table 16 provides a list of all compounds included in the RCRA Appendix IX List of for VOCs, SVOCs, PCBs, and

metals. TestAmerica Laboratories, Inc. (TestAmerica) of North Canton, Ohio completed the analysis of all soil and ground water samples collected, except for soil samples collected for ethylene glycol analysis, which were analyzed by the TestAmerica Buffalo, New York laboratory.

The soil and ground water results for the Phase II RFI are presented on Tables 17 through 28. Data flags (qualifiers) for the reported data are as follows:

- B = Sample contains concentrations of target analyte at a reportable level in the associated Method Blank(s).
- J = Target analyte result is between the Minimum Detection Limit and the Reporting Limit. There is a possibility of false positive or mis-identification at these quantitation levels.
- U = Target analyte was not detected. The associated number indicates the approximate sample concentration necessary to be detected (i.e. Reporting Limit).

The analytical qualifiers are listed adjacent to the reported data results on the data tables under the heading LQ.

The ground water laboratory reports (Appendices 8, 9 and 10) were revised and the results only were reproduced (Appendices 11, 12, and 13) to include the reporting of cis-1,2-dichlorethene, for ground water. Cis-1,2-dichloroethene is not included as RCRA Appendix IX list VOC. However it is a Constituent of Potential Environmental Concern (COPEC) since it has been historically detected in ground water at the site and it is a breakdown product trichloroethene which has been historically detected at the site in ground water at concentrations exceeding the WVDEP GWDMS.

4.4. Field Analysis and Parameter Data Collection

Field analysis and parameter monitoring were completed during the Phase II RFI for soil and ground water. Field analysis of soil pH was completed for several soil samples from AOC 6. The pH analysis was completed in accordance with EPA SW-846 Method 9045 D, as specified in the November 2008 QAPP (ELM, 2008b).

PID screening was conducted on soil and ground water samples collected during the Phase II RFI. The results of the PID screening were recorded on the soil boring logs (Attachment A) and ground water sampling report (Attachment G).

Field parameters collected during ground water sampling included temperature, pH, dissolved oxygen (DO), conductivity and oxygen reduction potential (ORP). These parameters were monitored as part of the low-flow ground water sampling activities, to demonstrate that the aquifer had stabilized and that the ground water samples from the monitoring wells were representative of ambient aquifer conditions.

The DO readings collected during the ground water purging and sampling are suspected to be erroneous. During the ground water sampling, the field crew noticed the DO meter listed the DO concentration to be zero during purging and sampling of the majority of the monitoring wells. The DO meter was recalibrated several times and the vendor of the DO meter was contacted as the meter was new. The field crew followed the vendor's instructions for resetting and calibration of the meter. Although the DO meter readings are listed as recorded during the sampling, since the data is suspect, the DO values were not used to gauge when the aquifer had stabilized during low-flow purging and sampling.

4.5. Analytical Data Validation

Data validation was completed by Alpha Geoscience in accordance with the November 2008 QAPP, and established EPA guidelines, June 1995 Region III Innovative Approaches to Data Review Guidance Document. Organic data (VOCs, SVOCs, PCBs and ethylene glycol) for soil and ground water samples was validated using the M-2 level

review procedures. Metals data for soil and ground water samples was validated using the IM-1 level review procedures. Copies of data validation reports for each laboratory data package are included in Attachment H.

Data validations qualifier that were applied to the data according to the validation guidance criteria outline by the USEPA Region III M-2 and IM-1 level review procedures, are as follows:

- U = Not detected. The associated number indicates the approximate sample concentration necessary to be detected.
- J = Analyte is present. Reported value may be biased high. Actual value is expected to be lower.
- B = Not detected substantially above the level reported in the laboratory or field blanks.
- R = Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample. Supporting data is necessary to confirm the result.
- N = Tentative identification. Analyte is considered present. Special methods may be needed to confirm its presence or absence during future sampling efforts.
- K = Analyte is present. Reported value may be biased high. Actual value is expected to be lower.
- L = Analyte is present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise

- UL = Not detected, quantitation limit is probably higher

These qualifiers are used for data validation purposes only and differ from the qualifiers that the laboratory assigned to the data. The data validation qualifiers are listed adjacent to the data results and the laboratory qualifiers under the heading DV on the data tables for this RFI Phase II Report.

Data usability for RFI Phase II data were determined by the third party data validator (Alpha Geoscience), ELM project manager, and the laboratory performing the fixed base analysis. Usability of data collected in the field was first determined by the field team, and the ELM project manager. Once the data were validated the usability of the data was determined by the project team, specifically the project manager. Overall, the RFI Phase II data were found to have met the quality criteria as specified in the project specific QAPP, laboratory SOPs, and referenced analytical methods within the limitations discussed above. A total of 13,574 analytical results were validated to for the RFI Phase II. Of this total, 245 analytical results were R qualified as rejected. The completeness percentage for the RFI Phase II effort was 98.2%.

The data validation had flagged the majority of the results for 1,4-dioxane, acrolein, acetonitrile, propionitrile and isobutanol as "R" (rejected) due the average relative response factors for calibration being below the allowable minimum. Communication with the third party data validator documented that the "R" qualifier was the result of the use of EPA Method 8270C for these compounds rather than the samples being unacceptable or problems with the laboratory analysis of the samples. There were no positive results (detected concentrations) of these compounds in any soil or ground water sample collected. The data is considered acceptable since no concentrations were detected at values that were close to the WDVEP soil and ground water de minimis standards for these compounds.

Matrix interferences for the analysis of the soil samples were noted in the laboratory data packages. The matrix interference problems resulted in elevated reporting limits for several samples. Sample, AOC2-04-7.5, (lab data package A9G150161), had all non-detect results for VOCs flagged as "R" (rejected) since the all four surrogate recoveries were below control limits. The laboratory noted the surrogate recoveries problem due to demonstrated matrix effects and interferences.

4.6. Sample Handling, Transport and Storage Procedures

The sampling handling, transport and storage procedures were implemented in accordance with the November 2008 QAPP. TestAmerica provided laboratory-cleaned sample containers and added preservatives to containers that required preservation. ELM personnel and Potesta & Associates personnel (July 2009 ground water sampling event) collected all samples and maintained control of samples until the samples were sent to the laboratory. Immediately after each sample was collected, the sample containers were appropriately labeled (including sample ID, sample date and time). Prior to transfer to the laboratory, the samples were kept in ice-packed insulated coolers. Samples were labeled, packaged and shipped by Federal Express at the end of each sampling day. All samples were transported to the laboratory without any breakage of bottle or damage to the samples.

Field records were maintained for all samples collected, and pertinent sample information was recorded on the chain-of-custody forms. Chain-of-custody forms were signed and dated at the time of receipt and delivery of samples. Upon receipt of the samples at the laboratory, the laboratory kept internal logs to track each sample. The laboratory reports for the Phase II RFI include Shipping and Receiving documentation and laboratory internal tracking logs for the samples (Appendices 1 through 10).

4.7. Data Handling and Management

Data generated as part of the Phase II RFI included information recorded in the field, laboratory analytical reports, and data validation assessments as outline in the November

2008 FSP and QAPP. All project related documents are maintained by ELM in hard copy and/or electronic format, and the files will be maintained for seven years following the completion of the project. At that time, ELM will contact BASF for transfer of the files to BASF as necessary. TestAmerica will retain all records related to the sample analysis including raw data, calculations, derived data, calibrations and test reports for a minimum of seven years after the production of the final data reports for each sample job.

Data management for the Phase II RFI included the use of an electronic data deliverables (EDD). TestAmerica provided EPA Region II EDDs for each laboratory data package and the EDDs were then downloaded into an EQUiSTTM database. Field data for each sample location and sample collected was then added to the database from the field book and boring logs. The database was used to manage the laboratory results and minimize errors associated with data transcription when data tables were generated for this report.

5.0 RFI PHASE II SOIL INVESTIGATION

5.1. AOC 2 Former Process Sewers

5.1.1. *Former Process Sewers History*

Historical information for the former process sewers is based on a review of historical SUCo Plant Sewer Location drawings and conversations with BASF personnel. There is no existing environmental data for the former process sewers. The date of the installation process sewer lines is unknown; however it is logical to assume the individual lines were installed as facility buildings were constructed. According to the historical process sewer drawings, the sewer system consisted of vitrified clay piping and transported both process and domestic wastewater. Several breaks were noted on historical Plant Sewer Location Drawings. However, no written documentation regarding these reported breaks was available for review. The combined wastewater was discharged to the City of Huntington Sewers, and no on-property disposal of wastewater was conducted.

BASF installed new sewer lines in the late 1980's and early 1990's and segregated process wastewater from sanitary wastewater. Domestic sewage is now discharged directly to the

City of Huntington sewer system, while the process sewer lines discharge to the on-site wastewater treatment system for pre-treatment prior to discharge to the City of Huntington system. The historic process sewer lines were abandoned and replaced with either PVC or fiberglass reinforced piping. The process sewer lines contain storm water collection points at various locations throughout the facility where storm water is collected, and the storm water is treated with the process wastewater. Wastewater from the facility is collected at Wet Well #1 where it is then transferred by overhead pipes to Wet Well #2 (see Section 5.2 for description of wastewater treatment plant). The pH of the wastewater is then adjusted through a series of smaller tanks at Building 76 and then transferred by underground piping to another sump prior to discharge to the municipal sanitary sewer.

5.1.2. Soil Investigation Scope and Procedures

An investigation of the soil surrounding the former process sewer lines was conducted to determine if any former release has impacted the site soils. The soil boring locations were selected based on a review of former historical SUCo Plant Sewer Location drawings and conversations with former BASF personnel. Twenty soil borings (AOC2-01 through AOC2-19, AOC5-05) were advanced along the former process sewer lines throughout the facility, as per the 2008 RCRA Facility Investigation Workplan Phase II Field Sampling Plan. Soil sample location AOC2-20 was in conjunction with soil boring AOC5-05 completed near the existing wastewater treatment tank to determine soil conditions at the point the sewer lines discharge to the wastewater treatment system.

The borings were completed at a frequency of approximately one boring per 100 linear feet of pipe and biased to locations of former piping intersections, manholes, cleanouts, and locations of known piping replacements. At each boring location, one soil sample was collected and analyzed for RCRA Appendix IX VOC, SVOC, PCBs and metals. The soil samples were collected at depths approximately 6 inches below the piping invert biased to the 6-inch interval exhibiting the highest PID reading and visual evidence of contamination.

At locations near manholes and/or open grates the depth to the piping bottom and depth of the structure were measured to determine sample depths.

One duplicate soil sample, AOC2-21-8.0 was collected from sample location AOC2-03-8.0. Sample designation AOC2-22-10.0 was used for the Performance Evaluation soil sample submitted to the laboratory and not a soil sample collected in the field. Sample locations and results where one or more of the comparison criteria were exceeded are illustrated on Figure 9 and analytical results are presented on Tables 17, 18 and 19. The soil boring logs are provided in Attachment A.

5.1.3. Soil Investigation Results

Constituents were found at levels greater than the WVDEP ISDMS in three locations:

1. Arsenic was found at a concentration of 48.1 mg/Kg at AOC2-04 (ISDMS of 27 mg/Kg);
2. TCE was found at a concentration of 2.3 mg/Kg at AOC2-17 (ISDMS of 0.92 mg/Kg); and
3. Arsenic, lead, TCE, 1,2,4-trichlorobenzene, and PCBs were found at levels greater than their respective ISDMS at location AOC2-18. It is to be noted that there were elevated detection limits for several constituents in this sample, so it is possible that other constituents may have been present at levels greater than their ISDMS. The concentration of PCBs (3,400 mg/Kg) was also above the EPA level for applicability of the Toxic Substances Control Act (TSCA) regulations for site cleanup.

Analytical results are presented on Tables 17, 18 and 19 and the locations and results that exceeded the WVDEP ISDMS are presented on Figure 9.

SVOC compounds, benzo(a)anthracene (2.2 mg/Kg) and benzo(a)pyrene (1.3 mg/Kg) were detected at AOC2-11; their respective EPA SSLs are 2.1 and 0.21 mg/Kg. Arsenic was

detected above the EPA SSL of 1.6 mg/Kg at all sample locations. However, it is to be noted that the majority of the arsenic found at the site is considered to be naturally occurring.

Aniline was detected at low concentrations in over half of the soil samples. Of these, the concentrations found at AOC2-01, AOC2-10, AOC2-16, AOC2-17, and AOC2-20 exceeded the WVDEP MGWDMS of 0.14 mg/Kg. Of these, only the concentration found at AOC2-16 (61 mg/Kg) was greater than 1 mg/Kg.

1,2,4-trichlorobenzene and 1,4-dichlorobenzene were found at levels greater than the WVDEP MGWDMS at AOC2-02 and (benzo(a)anthracene) was found at a concentration greater than the MGWDMS at AOC2-11, as presented on Table 18. PCB soil concentrations, either total or Aroclor specific, at sample locations AOC2-01, AOC2-02, AOC2-03, AOC2-04, AOC2-08, AOC2-11, AOC2-17 and AOC2-18, were above the WVDEP MGWDMS (Table 19). Metals detected at concentrations exceeding the WVDEP MGWDMS include antimony, arsenic, barium, copper, lead and selenium, at AOC2-01, AOC2-04, AOC2-12 and AOC2-18, as summarized on Table 19.

5.1.4. Conclusion and Recommendations

The data collected during the Phase II soil sampling support a conclusion that low levels of metals and SVOCs are present in several locations beneath the former process sewers. In some cases, these concentrations exceed the WVDEP MGWDMS. However, with the exceptions of location AOC2-16, where aniline was found at 61 mg/Kg at a depth of 11 to 11.5 feet, and the locations at which the WVDEP ISDMS were exceeded (see below), the results do not support a conclusion that an adequate mass of constituents is present to create an impact to ground water. As discussed in Section 2, ground water is found at depths ranging from 23 to 32 feet bgs, and the low concentrations of constituents are not predicted to affect ground water. As a result, of the locations at which the WVDEP MGWDMS was exceeded, additional investigation of only AOC2-16 is recommended. As discussed in Section 7, soil samples will be collected from deeper intervals to determine if the WVDEP MGWDMS is achieved at a depth interval above the depth of ground water.

Additional soil sampling is also recommended for AOC 2, at the three locations at which constituents were found at levels greater than the WVDEP ISDMS:

- AOC2-04 for arsenic;
- AOC2-17 for trichloroethene; and
- AOC2-18 for trichloroethene, 1,2,4-trichlorobenzene, PCBs, arsenic and lead.

At each of these locations, additional soil samples will be collected to define the vertical and horizontal extent of the constituents that are present at levels above the WVDEP ISDMS and assess whether these locations may represent a source of ground water contamination. Based on these results, additional characterization of ground water may be proposed.

As stated previously, the PCB concentration at sample AOC2-18-11.0 (3,400 mg/kg) exceeds 50 mg/Kg. Once the vertical and horizontal extent of the PCBs in this location is better understood, a plan to characterize and remedy the PCBs in accordance with EPA 40 CFR 761 will be prepared.

5.2. AOC 5 On-Site Wastewater Treatment System

5.2.1. On-Site Wastewater Treatment System History

The June 27, 2000 IRFI Workplan identified the on-site wastewater treatment system as an AOC because information regarding the operation of the system prior to BASF operations is unknown. The on-site wastewater treatment system was installed between 1965 and 1966, and is still in operation. The treatment system consists of an initial collection tank (Wet Well #1), a second collection tank (Wet Well #2), two pH adjustment tanks in series and a final tank to monitor effluent pH and flow prior to the treated process water being discharged to the City of Huntington sewer system.

The concrete tanks extend below ground with the tank inverts at approximately 20 feet below ground surface. Liquid levels in the tanks are regulated by the depth of the discharge outlet to the City of Huntington system, which is at approximately 7 to 9 feet below ground surface, resulting in approximately 11 to 13 feet of liquid in the tank. A visual inspection of the wastewater tanks above this elevation found no evidence of cracks or other indication of compromised integrity. All piping between Wet Well #1 and the pH adjustment tank is aboveground. Piping to Wet Well #1 from the manufacturing areas and piping from the treatment system area to the connection with the municipal sewer system is subsurface.

BASF operated the on-site wastewater treatment system in accordance with the facility's Industrial Waste Discharge Permit No. 1086010 (Huntington Sanitary Board). Flint Group Pigments currently operates the on-site wastewater treatment system in accordance with the same permit. The discharge permit requires that all process water be monitored for pH, color, and flow prior to discharge.

BASF documents identify no reported spills or releases from the treatment system, and inspection reports show that the tanks are in good condition during BASF's operations. However, no documentation regarding the installation and operation of the treatment system by Chemetron Corporation prior to BASF occupancy of the property was available for review in preparation of the RFI.

5.2.2. Soil Investigation Scope and Procedures

Six soil borings (AOC5-01 through AOC5-06) were advanced surrounding the existing wastewater treatment system tanks to a depth approximately 25 ft bgs. Sample locations AOC5-01 through AOC5-04 were located around the initial wastewater influent collection tank (Wet Well #1); the depth of the tank was approximately 18 to 19 ft bgs. Sample locations AOC5-5 and AOC5-06 were from below the invert of Wet Well #2.

One soil sample was collected from each boring at the 6-inch interval at a depth approximately 6 inches beneath the invert of the tanks, biased toward elevated PID reading and visual evidence of contamination. The soil samples were analyzed for RCRA Appendix IX VOCs, SVOCs, PCBs, and metals. One duplicate soil sample (AOC5-07-20.0) was collected with sample AOC5-02-20.0. Sample locations and results are illustrated on Figure 10 and analytical results are presented on Tables 20, 21, and 22. The soil boring logs are provided in Attachment A.

5.2.3. Soil Investigation Results

No contaminants were detected at concentrations exceeding the WVDEP ISDMS. Arsenic was the only contaminant that was detected at concentrations above the December 2009 EPA SSLs for industrial sites. Arsenic was detected in all soil samples at concentrations ranging from 2.0 mg/Kg to 18.2 mg/Kg. The EPA SSL for arsenic is 1.6 mg/Kg; however the range of arsenic concentrations found in soil are within a typical background range for West Virginia (see Section 2.2).

The WVDEP MGWDMS were exceeded in three locations:

1. Arsenic at AOC5-01-20.0 (18.2 mg/Kg; MGWDMS of 5.8 mg/Kg);
2. PCB Aroclor 1248 at AOC5-05-22.0 (0.065 mg/Kg; MGWDMS of 0.059 mg/Kg); and
3. PCB Aroclor 1248 at AOC5-07-20.0 (0.16 mg/Kg).

5.2.4. Conclusion and Recommendations

No further investigation of AOC 5 On-Site Wastewater Treatment System for soils for impact to human health is recommended; no constituents were found at levels greater than the WVDEP ISDMS. Arsenic was detected in every sample and concentrations exceeded the EPA SSLs; however, as discussed previously, the concentrations of arsenic found are well within the range of naturally occurring arsenic in West Virginia soils.

Based on the data from sample locations AOC5-05 and AOC5-07, there could be a potential impact to ground water for PCBs. Additionally, based on the arsenic concentration at AOC5-01, there is a potential for an arsenic impact to ground water.

However, as stated previously, the arsenic at location AOC5-01 is considered to be a background condition and not the result of a discharge. Therefore, no ground water investigation for arsenic is recommended.

Additionally, the PCBs detected in soil are not pervasive and are only slightly above the WVDEP MGWDMS. There is no evidence of any significant mass of PCBs in the subsurface that could represent a source of dissolved-phase PCB concentrations such that the MCL or WVDEP GWDMS would be exceeded. Therefore, no further investigation is recommended.

5.3. AOC 6 Above Ground Storage Tanks

5.3.1. Above Ground Storage Tanks History

The June 27, 2000 Initial RFI Workplan identified the former and existing ASTs as an AOC because documentation regarding the use and operation of former storage tanks prior to BASF operations was not available for review. Former aboveground storage tanks (ASTs) at the facility were located in three areas on the southern portion of the facility adjacent to the railroad tracks in the same vicinity as the existing ASTs (Figure 2).

Historical Sanborn Maps document that the ASTs were used for the storage of acid (sulfuric and hydrochloric), aniline, caustic soda, anhydrous ammonia, toluene, xylenes, ethylene glycol and formaldehyde. The Sanborn Maps from 1931 to 1968 did not document that the ASTs had secondary containment, with the exceptions of the xylenes and toluene ASTs. The 1968 Sanborn Map depicts a dike surrounding the xylenes and toluene tanks. Table 23 provides a summary of the ASTs (existing and former), known contents of the ASTs, corresponding soil samples and analytical parameters.

During BASF's operation of the facility and current operations by Flint Group, the existing ASTs have been/are surrounded by secondary containment. The areas surround the existing ASTs are covered by asphalt or concrete. The operation and use of the ASTs containing oil/petroleum products is in accordance with the facility's SPCC Plan.

5.3.2. Soil Investigation Scope and Procedures

Sixteen borings, AOC6-01 through AOC6-16, were completed at the three AST areas to evaluate if historical discharges from the ASTs had impacted soils. Soil borings were drilled near locations of former ASTs and adjacent to existing secondary containment structures, as shown on Figure 11. The borings were completed to a depth of approximately 8 ft bgs. No borings were drilled within any of the AST secondary containment structures. As per the 2008 Phase II Work Plan, one sample was collected from each boring from native soil at a depth of 6 to 12 inches below ground surface or from the six-inch interval of native soil with the highest PID reading or showing evidence of odors or staining.

Soil samples were analyzed for RCRA Appendix IX analytical parameters that were specific to the surrounding AST contents, as listed on Table 23. Samples from borings AOC6-05 and AOC6-06 were also analyzed for ethylene glycol. Soil samples collected from borings AOC6-14, AOC6-15 and AOC6-16 were also analyzed for total petroleum hydrocarbon (diesel range organics). Field analysis for pH was conducted on soil samples collected from borings AOC6-01 through AOC6-06 and AOC6-09 through AOC6-13. The field pH measurements for soil samples were conducted in accordance with SW-846 Method 9045D, as specified in the November 2008 QAPP (ELM, 2008b). One duplicate soil sample, AOC6-22-1.0, was collected with sample AOC6-03-1.0. Sample locations and results are illustrated on Figure 11 and analytical results are presented on Tables 24 through 29. The soil boring logs are provided in Attachment A.

5.3.3. Soil Investigation Results

The results of the Phase II soil investigation in the AST area are presented in four sections:

1. General (Appendix IX list) results,
2. Results specific to fuel oil tank areas,
3. Results specific to former ethylene glycol AST, and
4. Results for soil pH analysis for caustic and acid AST areas.

General Appendix IX List Sampling Results

The WVDEP ISDMS were exceeded at one location, AOC6-07, located adjacent to the former toluene and xylenes AST areas, as presented on Figure 11 and Table 24. At this location, ethylbenzene (18,000 mg/Kg), toluene (6,100 mg/Kg) and total xylenes (12,000 mg/Kg) were found in the 2.0' depth interval at levels greater than the WVDEP ISDMS and MGWDMS. Field observations of PID readings and odors were also noted at this sample location.

The EPA SSL for arsenic (1.6 mg/Kg) was exceeded for all soil samples except one. Arsenic concentrations ranged from 0.78 mg/kg to 21.9 mg/Kg with the average being 6.44 mg/Kg. PCB Aroclor 1254 (8.9 mg/Kg) was detected at AOC6-07-2.0 above the EPA SSL of 0.74 mg/Kg.

Several VOCs, SVOCs, PCBs and metals were detected in soil samples exceeding the WVDEP MGWDMS, as summarized on Tables 24, 25 and 26. In the majority of the locations at which one or more constituents were found at a concentration greater than the WVDEP MGWDMS, the concentrations were generally low and did not support a conclusion of a mass of constituents adequate to represent a potential source to ground water. The potential exception to this are the detections of aniline at locations AOC6-07, AOC6-08, AOC6-089 and AOC6-10, where aniline was detected at concentrations ranging from 35 to 120 mg/Kg at depths of 2.0' to 6.5'. These sample locations are near former and existing aniline ASTs (see Figure 11), and other SVOCs and some metals were also found in these locations at levels greater than the WVDEP MGWDMS.

Fuel Oil Tank Area

Samples AOC6-14-2.0, AOC6-15-6.0 and AOC6-16-2.0 were collected from the soil surrounding the Fuel Oil AST Farm. The fuel oil stored in the AST is #2 Fuel Oil and the tanks are within secondary containment.

Diesel range TPH (diesel range organics) was not detected in samples AOC6-14-2.0 and AOC6-16-2.0, as summarized on Table 27. Sample AOC6-15-6.0 had a TPH concentration of 180 mg/Kg, which is below the WVDEP ISDMS value of 8,300 mg/Kg, but slightly above the WVDEP MGWDMS of 170 mg/Kg. At AOC6-15-6.0, VOC or SVOC compounds were not detected at concentrations above the above the WVDEP MGWDMS.

Former Ethylene Glycol AST Area

Sample locations AOC6-05 and AOC6-06 were biased to the area where a former AST containing ethylene glycol was located. The ethylene glycol was not detected in the soil tables (Table 28).

Existing and Former Acid AST Areas

Soil pH results ranged from 3.94 to 8.31; the average pH value for all samples was 6.48, as summarized on Table 29 and Figure 12. The soil samples were collected from the first six-inch interval of native soil encountered at each location. At most locations, native soil was observed less than two to three feet below ground surface. At locations AOC6-09 and AOC6-12, native soil was encountered at 6.5 ft and 8.0 ft respectively. At all sample locations, the ground surface was covered by concrete, with the exception of sample locations AOC6-04 and AOC6-06, where stone gravel covered the ground surface.

5.3.4. Conclusion and Recommendations

Elevated concentrations of ethylbenzene, toluene and total xylenes were detected at sample location AOC6-07 in shallow soils. Horizontal and vertical delineation of these VOC compounds in soil is warranted since the concentrations exceed the WVDEP ISDMS and

MGWDMS, and the nearby monitoring wells, TMW-4S and TMW-11S, have had detected concentrations of these compounds in ground water in 2002 and 2005 (Table 2).

As discussed above, aniline and other SVOCs and metals were found at levels above the WVDEP MGWDMS in samples collected adjacent to the former and existing aniline ASTs. Of these, only the aniline found in samples AOC6-07, AOC6-08, AOC6-09 and AOC6-10 was at a high enough concentration and in a sufficient number of samples to potentially represent a source of dissolved-phase constituents in ground water. Therefore, additional soil investigation is proposed for these areas. Additional detail regarding the additional soil investigation recommended for AOC 6 is presented in Section 7.

No further action is recommended for the investigation of fuel oil related constituents near the Fuel Oil AST area (sample locations AOC6-14, AOC6-15 and AOC6-16). TPH concentrations were either non-detect or below the WVDEP ISDMS. TPH concentration at AOC6-15 was above the migration to ground water draft standard; however no fuel oil related VOCs or SVOCs were detected at elevated concentrations. Therefore it can be concluded the TPH concentrations detected may be of natural organic matter, such as decaying vegetation, and not fuel oil related.

Four sample locations had pH values below 5.0, supporting the conclusion that soil surrounding may have been impacted by the use of the acids stored in the ASTs. AOC6-03-1.0 (pH of 4.79) and AOC6-05-2.0 (pH of 4.26) were collected near existing sulfuric acid storage tanks in secondary containment and former mixed acid tanks. Samples AOC6-12-8.0 (pH of 3.94) and AOC6-13-3.0 (pH of 4.91) were collected near the location of former hydrochloric acid tanks. Both of these areas are covered by asphalt and there is no exposure for worker contact with the soil. No further action is recommended in regards to pH analysis of soils for the former AST area.

6.0 RFI PHASE II GROUND WATER INVESTIGATION

6.1. Summary of Proposed Investigation Scope and Procedures

A new monitoring well, TMW-12D, was installed approximately 80 feet hydraulically down gradient of TMW-1D beyond the northern property line. The location for the well was based on property access and location of subsurface utilities. The new well was installed to investigate ground water conditions off-site and downgradient from TMW-1D. Details regarding the installation and construction of the well are presented in Section 4.2.2 and the well log for TMW-12D and the logs for all existing wells are included in Attachment C.

A ground water sampling event was completed in July 2009 and all site monitoring wells, including the new well (TMW-12D), were sampled. A summary of ground water sample information (i.e. sample identification, analytical parameters, sample data and sample time) is presented on Table 5. Ground water results are presented on Tables 30 through 34 and the laboratory data reports are included in Appendices 8 through 13.

The concentrations of constituents found in ground water were screened against the WVCSR 60-3 Voluntary Remediation and Redevelopment Rule, De Minimis Standards for Ground Water (GWDMS). The GWDMS are equal to or more stringent than the EPA December 2009 RSLs and MCLs for tap water.

6.2. Ground Water Results July 2009

The ground water results for July 2009 are consistent with the results from 2002 to 2005, and further document the trends in ground water concentrations observed over the earlier time period. Additionally, the results from the new well, TMW-12D, show that, within a relatively small distance from the northern, down gradient property boundary, the concentrations of all constituents in ground water approach or achieve their respective MCLs, and, with the one exception of 1,1,2,2-tetrachloroethane, approach or achieve the WVDEP GWDMS.

Consistent with previous sampling results, chlorinated VOCs, primarily trichloroethene and cis-1,2-dichloroethene, were detected at concentrations above the WVDEP GWDMS in deep monitoring wells in two locations on the site:

1. On the northern, down gradient portion of the site, in monitoring wells TMW-1D and TMW-12D; and
2. Within the 25th St. Landfill area in monitoring wells TMW-5D and TMW-7D.

Also similar to previous results, aromatic VOCs (ethylbenzene and total xylenes) and several SVOCs (aniline and n-nitrosodiphenylamine) were detected in shallow monitoring wells located in the southern, up gradient portion of the site, TMW-4S and TMW-11S, at concentrations above the WVDEP GWDMS.

Arsenic was detected above the WVDEP GWDMS at TMW-2D, TMW-4S and TMW-11S. The results from TMW-2D are not necessarily representative of dissolved-phase concentrations, as turbidity levels were elevated during sampling (137 ntu).

The July 2009 ground water data results for exceedances to the WVDEP GWDMS are summarized on Figures 13 and 16, and the results for all analyzed compounds are presented on Tables 30 through 34. Results of the July 2009 sampling event are presented based on three general facility areas:

- 1) Onsite facility area (TMW-2D, TMW-4D, TMW-4S and TMW-11S);
- 2) Down gradient of the main facility (TMW-1D, TMW-9D and TMW-12D); and
- 3) 25th Street Landfill area (TMW-5D, TMW-6D, TMW-7D and TMW-8D).

6.3. Discussion of Ground Water Results

Previous reports have discussed the constituents found in ground water and the predicted fate and transport of these constituents. In particular, it previously has been predicted that the chlorinated VOCs detected in the 25th Street Landfill wells (TMW-5D and TMW-7D) and in the area down gradient of the main plant (TMW-1D) would continue to attenuate in concentrations and were therefore stable, such that the EI, "Migration of Contaminated Ground Water Under Control", was achieved. Additionally, it was concluded, based on the site-specific ground water seepage velocity and retardation coefficient calculations, that the aromatic VOCs and SVOCs found in the up gradient portion of the property (TMW-4S and TMW-11S) were essentially immobile, again supporting a conclusion that the EI for ground water migration was achieved.

The results of this round of ground water sampling provide further support for these conclusions, but also provide additional information regarding ground water conditions, including:

- At a relatively short distance (approximately 80 feet) down gradient of the site's northern property boundary, the concentrations of all constituents approach or achieve their respective MCLs and, with the exception of 1,1,2,2-tetrachloroethane, for which the WVDEP GWDMS is very low (0.055 µg/L), achieve or approach their respective WVDEP GWDMS.
- Arsenic, not previously analyzed for in all monitoring wells, was found in the two shallow monitoring wells (TMW-4S and TMW-11S) in which the aromatic VOCs and SVOCs are present. Based on the geochemistry of arsenic, it is probable that its presence in these two locations is a result of the reducing conditions created by the hydrocarbons mobilizing naturally occurring arsenic in the formation. As such, it is a secondary constituent that: (a) is limited in extent to the locations where the hydrocarbons affect the geochemistry; and (b) will be addressed when the hydrocarbons are addressed. Arsenic was also found in deep monitoring well

TMW-2D, but the turbidity level of the sample (134 ntu) may have contributed to the reported arsenic concentration.

- In addition to the degradation of the chlorinated VOCs, degradation of the aromatic VOCs and the SVOCs found in the up gradient monitoring wells is being observed. As noted in Section 6.3.2, "Contaminant Fate and Transport", concentrations of toluene, ethylbenzene and xylenes declined significantly in TMW-11S between 2005 and 2009, while the levels of these constituents in TMW-4S remained at levels well below their 2003 levels. Aniline levels in both wells remained relatively stable.

6.3.1. Nature and Extent of Contamination

Three categories of constituents were found in ground water at concentrations greater than EPA MCLs and/or WVDEP GWDMS:

- Chlorinated VOCs were found in the 25th Street Landfill and in the most down gradient monitoring wells;
- Aromatic VOCs and SVOCs were found in the most up gradient shallow monitoring wells; and
- Arsenic was found in the up gradient shallow monitoring wells in which the VOCs and SVOCs were found, and in one deep monitoring well. The presence of the arsenic in the deep monitoring well (TMW-2D) is possibly a result of the turbidity in the sample obtained.

The extent of the constituents is generally well understood, and the previous determination that the EI for ground water migration has been achieved remains accurate. Specifically:

- The chlorinated VOCs found in the wells installed in the 25th Street Landfill are relatively low and are declining (see "Fate and Transport"). The extent is limited,

based on the absence of these constituents in the two monitoring wells (TMW-6D and TMW-8D) installed on the western end of the landfill.

- The chlorinated VOCs found in the down gradient portion of the site are also declining (see "Fate and Transport") and, at the down gradient extent, the concentrations of all constituents approach or achieve their respective EPA MCL. It is noted that the concentration of 1,1,2,2-tetrachloroethane in TMW-12D is above the WVDEP GWDMS.
- The aromatic VOCs and the SVOCs found in up gradient monitoring wells TMW-4S and TMW-11S have declined from 2005 levels and are predicted to remain stable.
- The arsenic found in TMW-4S and TMW-11S is most likely the result of the reducing conditions created by the VOCs and SVOCs mobilizing the naturally occurring arsenic. With the exception of TMW-2D, in which turbidity levels were elevated (137 ntu), arsenic was not found in any other monitoring well at a concentration greater than the MCL/GWDMS.

Based on the results that have been obtained, no additional monitoring wells are proposed for the purpose of better defining the extent of the constituents that previously have been found in ground water at the site. Based on the soil sampling results, however (see Section 5), additional ground water wells will be installed.

6.3.2. Contaminant Fate and Transport

The 2009 ground water sampling results support the conclusion that the extent of dissolved-phase constituents is stable or declining. As presented in Tables 35 and 36:

- Concentrations of TCE, the parent chlorinated VOC, have declined by approximately 75% between 2002 and 2009 in TMW-1D. During all sampling events, degradation

products were present, supporting the conclusion that biodegradation was occurring via reductive dechlorination.

- Concentrations of TCE, the parent chlorinated VOC, have declined by 50% and 40% in TMW-5D and TMW-7D, respectively, since the 2005 sampling event. This reverses the increasing concentration trend that had been observed in earlier monitoring events.
- BTEX and aniline levels in monitoring well TMW-4S increased from the levels found in 2005, but remain substantially less than the concentrations found in 2002 and 2003. It should be noted that the laboratory reported an elevated detection limit for benzene in 2009. In general, however, the data support a conclusion that the mass of constituents in this area is being depleted.
- BTEX levels in TMW-11S were substantially lower than those found in 2005. Aniline levels increased slightly from the 2005 levels. An elevated detection limit for benzene was also reported for TMW-11S in the 2009 sampling event. As with the results for TMW-4S, the data support a conclusion that the mass of constituents in the area of TMW-11S is being depleted.

Based on the above information, continued monitoring of these wells is merited. As discussed in Section 5, additional soil sampling is proposed to assess the extent to which constituents in soil may be affecting ground water. Based on the results of this sampling, a proposal to address any source material, if present, will be proposed.

6.4. Conclusion and Recommendations

The results of the 2009 ground water sampling, including the results from newly-installed TMW-12D, are consistent with the results of previous sampling events:

- Chlorinated VOCs found in the northern, down gradient portion of the property are undergoing reductive dechlorination and will eventually decline to their respective EPA MCL. The results from the new monitoring well, TMW-12D, support the conclusion that concentrations of all chlorinated VOCs decline to levels approaching or achieving their respective EPA MCL within a relatively short distance from the down gradient property boundary. There is no EPA MCL for 1,1,2,2-tetrachloroethene, which is found at levels significantly above the WVDEP GWDMs in TMW-12D, but levels of 1,1,2,2-tetrachloroethane are also declining.
- Chlorinated VOCs found in the 25th Street Landfill are stable or declining, and there is no indication of any significant source area mass. Concentrations of TCE, the parent compound, have declined by up to one half since 2005, and there is evidence that reductive dechlorination is occurring.
- The aromatic VOC and the SVOCs found in TMW-4S have remained stable since the 2005 sampling, and are significantly lower than those found in 2002. Similarly, concentrations of aromatic VOCs in TMW-11S declined since the 2005 sampling. Together, the results support a conclusion that the mass of constituents in the area is being depleted.

Additionally, the new results support a conclusion that the reducing conditions created by the aromatic VOCs and the SVOCs in TMW-4S and TMW-11S are sufficient to mobilize naturally-occurring arsenic such that the MCL for arsenic is exceeded in these wells. As such, the extent of the arsenic is likely limited by the geochemical effects of the VOCs and SVOCs, and it can be predicted that arsenic levels will decline as the localized geochemistry returns to normal.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1. Conceptual Site Model

Based on the soil and ground water data collected during the RFI Phase II investigation, the following relationships of source, fate and transport and receptor impact can be established:

7.1.1. *Chlorinated VOCs in Down Gradient Wells*

There is no apparent source of the chlorinated VOCs found in TMW-1D and TMW-12D. The highest dissolved-phase concentrations of TCE found have been approximately 100 µg/L, which is well below 1% of the aqueous solubility of TCE. Additionally, dissolved phase concentrations have continuously declined since sampling began, which would not be predicted if there was any substantial source area mass. The absence of a source mass was confirmed in 2003 when a focused ground water investigation of the entire northern parking lot area was conducted.

Therefore, it can be concluded that the dissolved-phase chlorinated VOCs are a combination of sorbed and dissolved-phase constituents, with the sorbed and dissolved phase masses a function of localized partitioning. Based on an estimated f_{oc} of 0.009 and a K_{ow} for TCE of 263 (values used to develop the retardation rates in the 2005 Supplemental Report), it can be estimated that the partitioning of sorbed to dissolved phase is approximately 15:1.

As documented previously, the dissolved-phase chlorinated VOCs are declining as a result of both biotic (reductive dechlorination) and abiotic (dispersion) processes. Given the presence of both sorbed and dissolved-phase constituents, and the preferential partitioning to the sorbed phase, it can be predicted that while dissolved-phase concentrations will continue to decline, it may be some time before the EPA MCLs for all constituents are achieved.

There are no receptor impacts under current or reasonably foreseeable conditions. Ground water is not used, and there is no plan to use the ground water. Previous submissions have demonstrated that, even at a concentration of 100 µg/L, the TCE does not represent a risk via the vapor intrusion pathway. Since TCE concentrations in ground water have declined to levels lower than 100 µg/L, the potential risk via vapor intrusion is even less.

7.1.2. Chlorinated VOCs in 25th Street Landfill

The conceptual understanding of source, fate and transport and receptor impact discussed for the chlorinated VOCs in the down gradient portion of the site (TMW-1D and TMW-12D) is applicable to the chlorinated VOCs in the 25th Street Landfill wells:

- There is no apparent source of the chlorinated VOCs. TCE concentrations have consistently been well below those that would support a conclusion of non-aqueous phase liquids (NAPL) being present, and, as discussed previously, concentrations have declined since the 2005 sampling event. Therefore, similar to the chlorinated VOCs in TMW-1D and TMW-12D, it can be concluded that the chlorinated VOCs in the 25th Street Landfill are present as a combination of sorbed and dissolved-phase constituents, with the sorbed to dissolved-phase partitioning coefficient is approximately 15:1.
- The chlorinated VOCs are undergoing biotic and abiotic degradation. Parent compound concentrations have declined since 2005, and degradation products are present. Because the TCE preferentially partitions to the sorbed phase, it may require an extended time frame to achieve the MCL.
- There are no risks to any receptor. Ground water is not and will not be used, and there is no unacceptable risk via the vapor intrusion pathway, as documented previously.

7.1.3. Aromatic VOCs and SVOCs in Up Gradient Portion of Site

There is evidence of source material in the immediate vicinity of TMW-4S and TMW-11S. Although there was no indication of soil contamination in soil during installation of either TMW-4S or TMW-11S, the dissolved-phase concentrations of aromatic hydrocarbons (several thousand $\mu\text{g/L}$ of individual constituents) supports the conclusion of source material.

It had previously been hypothesized that the source may have been an up gradient release, since the two wells are at the up gradient property boundary. This hypothesis is still valid, but, based on the results of the soil investigation of the AST area (see Section 5.3), it is also possible that a release from an AST could be responsible. For example, elevated levels of ethylbenzene, toluene and xylenes were found in the soil sample obtained at the 2.0-foot interval at location AOC6-07, very near TMW-4S and TMW-11S. Additional soil sampling is proposed to determine if this may be the source of the constituents found in the two monitoring wells.

The extent of the dissolved-phase constituents is stable or declining. As discussed previously, the aromatic VOCs have relatively high octanol/water partitioning coefficients (K_{ow}), and with the relatively high f_{oc} measured in soil (0.009), retardation rates are high, limiting the down gradient transport of these constituents. Dissolved-phase concentrations have declined significantly since monitoring began in 2002, although there was an increase in dissolved phase concentrations in TMW-4S between 2005 and 2009.

The dissolved-phase constituents are undergoing degradation by both biotic and abiotic mechanisms. The aromatic constituents biodegrade primarily via aerobic pathways, but there is evidence that anaerobic mechanisms are also effective.

There is no threat to any receptor from these constituents. Ground water is not used.

7.1.4. Other Potential Sources to Ground Water

As discussed in Section 5, there are several locations where the concentrations of constituents in soil may represent potential sources to ground water:

- AOC2-04, where arsenic was found at a concentration greater than the WVDEP ISDMS;
- AOC2-16, where aniline was found at a concentration (61 mg/Kg) greater than the WVDEP GWMDMS at a depth of 11–11.5 feet;
- AOC2-17 where trichloroethene was found above the WVDEP ISDMS;
- AOC2-18, where trichloroethene, 1,2,4-trichlorobenzene, PCBs, arsenic and lead were found above their respective WVDEP ISDMS;
- AOC6-07, where toluene, ethylbenzene and xylenes were found at levels above the WVDEP ISDMS; and
- AOC6-07, AOC6-08, AOC6-09 and AOC6-10, where aniline was detected at concentrations ranging from 35 to 120 mg/Kg at depths of 2.0 to 6.0 feet.

Further investigation of these areas will be conducted to assess whether they are a potential source of ground water contamination.

7.2. Soil

Soil sampling will be conducted at those locations where constituents were found at levels greater than the WVDEP ISDMS and in three locations where aniline and other SVOCs were found at levels significantly greater than the WVDEP GWMDMS. The objectives of the sampling are to: (1) determine the vertical and horizontal extents to which constituents are

present at levels greater than the WVDEP ISDMS; and (2) determine if any of these locations represent a source of constituents to ground water.

7.2.1. *Delineation of Constituents Found at Levels Greater than WVDEP ISDMS*

Additional soil sampling will be conducted to determine the vertical and horizontal extent of the constituents found at levels above the WVDEP ISDMS in the following locations:

- AOC2-04 for arsenic (7.5- 8 ft);
- AOC2-17 for trichloroethene (11- 11.5 ft);
- AOC2-18 for trichloroethene, 1,2,4-trichlorobenzene, PCBs, arsenic and lead (11-11.5 ft); and
- AOC6-07 (2-2.5 ft) for toluene, ethylbenzene and xylenes.

A soil boring will be installed at the location of the original boring to the water table (23 to 32 ft). All cores will be obtained and field screened with a PID. If there is no indication of contamination (elevated PID reading, odor, staining), sample collection will begin at the depth at which the original sample was collected. Sample collection will continue at 2-foot intervals until the water table is reached.

The samples will be sequentially analyzed for the constituents that exceeded the WVDEP ISDMS. At location AOC6-07, analysis will also include the SVOCs that were found at levels above the WVDEP GWDMS. In each location, the shallowest samples will be analyzed for the constituents found in the original sample at a concentration greater than the WVDEP ISDMS. The results will be compared to the WVDEP GWDMS. If one or more constituents are found at a level greater than the WVDEP GWDMS, the next deepest sample will be analyzed. This will continue until the WVDEP GWDMS is achieved. In this way, the vertical extent of the constituents above both the WVDEP ISDMS and GWDMS will be determined.

Soil borings will be installed on four sides of each original sample location at a distance of approximately 10 feet, with potential changes in location due to access. Samples will be collected from the interval at which constituents were present in the original sample at a concentration greater than the WVDEP ISDMS, unless field observations or screening find evidence of contamination above that interval.

The borings will be continued to the water table, and samples will be collected every two feet. The samples will be analyzed based on a combination of field observations and the results of the vertical delineation boring installed in the original location:

- If there is evidence of contamination, a sample will be collected and analyzed.
- Samples will be analyzed from the interval(s) in which constituents were present at levels above the WVDEP ISDMS in the vertical delineation boring installed in the original location.

Finally, if evidence of contamination is noted in the field in one of the horizontal delineation borings, a “step out boring” will be installed approximately 10 feet beyond the horizontal delineation boring. The step out boring will extend to the depth at which the contamination was noted in the delineation boring, and a sample will be collected from that interval.

7.2.2. Vertical Delineation of Aniline at Levels above WVDEP GWDMs

Vertical delineation of the aniline and other SVOCs found in AOC6-07 and AOC6-08 will be conducted as part of the delineation program for the constituents found at levels above the WVDEP ISDMS, above.

Vertical delineation of the aniline and other SVOCs found above the WVDEP GWDMs will be performed by installing a boring at the former locations of AOC2-16 and AOC6-10. The borings will be continued to the water table. Samples will be collected beginning at the 2.5

to 3-foot interval at location AOC6-10 and at the 11 to 11.5-foot interval at AOC2-16, and at every subsequent two feet.

Samples will be analyzed sequentially for SVOCs. If the results from the shallow sample are greater than the WVDEP GWDMS, the next deeper sample will be analyzed. This will continue until the WVDEP GWDMS is achieved.

7.3. Ground Water

Based on the ground water results from the 2009 sampling event, no additional ground water monitoring wells are proposed. However, it is possible, based on the results of the proposed supplemental soil investigation, that wells may be proposed in the future. A semi-annual ground water sampling program is proposed for the site to continue to monitor and assess ground water conditions.

8.0 REFERENCES

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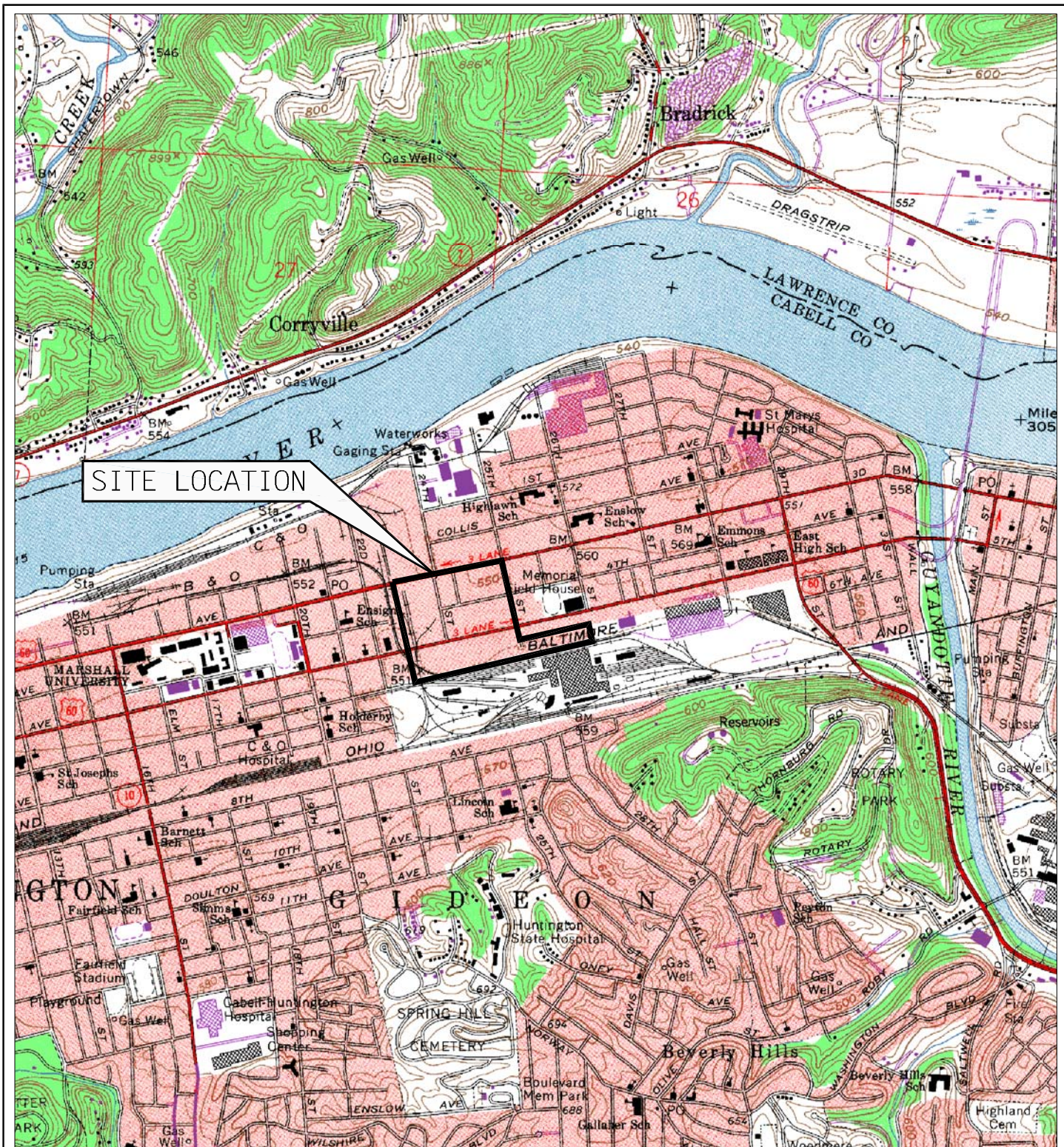
9.0 ACRONYMS, ABBREVIATIONS AND UNITS OF MEASURE

Agencies	USEPA and WVDEP
AOC	Area of Concern
bgs	below ground surface
°C	Degrees Celsius
COC	Chain of Custody
CPECs	Constituents of Potential Environmental Concern
DCE	Dichloroethene
DO	Dissolved Oxygen
DRO	Diesel Range Organics
EDD	Electronic Data Deliverables
°F	Degrees Fahrenheit
ft bgs	feet below ground surface
FSP	Field Sampling Plan
GPS	Global Positioning System
GWDMs	WVDEP 60CSR3 Table 60-3B Ground Water De Minimis Standard, July 2008
IRFI	Initial Phase RCRA Facility Investigation
ISDMS	WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Standard, July 2008
MCL	Maximum Contaminant Level
MDL	Minimum Detection Limit
MGWDMs	WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Standard, July 2008
mg/kg	milligram per kilogram
MS/MSD	Matrix Spike/Matrix Spike Duplicate
MSL	Mean Sea Level

ntu	Nephelometric Turbidity Units
ORP	Oxygen Reduction Potential
PAHs	Polynuclear Aromatic Hydrocarbon
PCBs	Polychlorinated Biphenyls
PCE	Tetrachloroethene
PES	Performance Evaluation Sample
ppm	parts per million
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RL	Reporting Limit
RSL	Regional Screening Level
SOP	Standard Operating Procedure
SSL	Soil Screening Level
SVOCs	Semivolatile Organic Compounds
TCA	Trichloroethane
TCE	Trichloroethene
TPH	Total Petroleum Hydrocarbons
µg/L	micrograms per liter
USEPA	United States Environmental Protection Agency
VC	Vinyl Chloride
VOCs	Volatile Organic Compounds
WVDEP	West Virginia Department of Environmental Protection

FIGURES

- Figure 1: Site Location Map
- Figure 2: Facility Layout Map Depicting Areas of Concern and Monitoring Well Locations
- Figure 3: Potentiometric Contours for Ground Water July 2009
- Figure 4: Initial RFI Soil Sample and Monitoring Well Locations
- Figure 5: Initial RFI Volatile and Semi-Volatile Organic Results for Ground Water 2002-2005
- Figure 6: Initial RFI Total PCBs and Metals Results for Ground Water - 2002 and 2005
- Figure 7: Initial RFI Volatile Organic Results for Parking Lot Area and TMW-1D - 2003
- Figure 8: RFI Phase II Soil Sample and Monitoring Wells Locations July 2009
- Figure 9: AOC 2 Former Process Sewers - Exceedances to the WVDEP Industrial Soil De Minimis Standards
- Figure 10: AOC 5 On-Site Wastewater Treatment System Sample Locations and Results
- Figure 11: AOC 6 Above Ground Storage Tanks - Exceedances to the WVDEP Industrial De Minimis Standards
- Figure 12: AOC 6 Above Ground Storage Tanks Sample Locations and pH Results
- Figure 13: Chlorinated Volatile Organic Compound Concentrations in Ground Water July 2009
- Figure 14: Chlorinated Volatile Organic Compound Concentrations in Ground Water 2002-2009
- Figure 15: Volatile and Semi-Volatile Ground Water Results for TMW-4S, TWM-4D and TMW-11S July 2009
- Figure 16: Volatile and Semi-Volatile Ground Water Results for TMW-4S, TWM-4D and TMW-11S from 2002 to 2009



0 2,000 4,000



SCALE: 1" = 2,000'



218 WALL STREET, PRINCETON, NEW JERSEY 08540
4920 YORK ROAD, SUITE 230, HOLLAND, PENNSYLVANIA 19928 612
MAIN STREET, BOONTON, NEW JERSEY 07005
267 BROADWAY, FIFTH FLOOR, NEW YORK, NEW YORK 10007
2475 BAGLYOS CIRCLE, BETHLEHEM, PENNSYLVANIA 18020
www.ExploreELM.com

TITLE:

FIGURE 1 SITE LOCATION MAP

LOCATION:

FORMER BASF HUNTINGTON WORKS
5TH AVENUE & 24TH STREET
HUNTINGTON, WEST VIRGINIA

DATE:

5/11/10

PROJECT NO.:

99184

FILENAME:

99184_SITELOC_REV1

SOURCE:

USGS TOPO, HUNTINGTON, W. VA-OHIO QUAD,
PHOTOREVISED 1985

BUILDING LEGEND

1 - WAREHOUSE
9 - WAREHOUSE
9A - SHIPPING
9B - WAREHOUSE
10 - PARKING LOT
11 - CONTRACTOR AREA
41 - ENGINEERING & MAINTENANCE

42 - STORAGE
46 - STOREROOM
47 - VACANT
48 - ADMINISTRATION
50 - SECURITY
51 - LAB, HUMAN RESOURCES, FLUSH COLOR
52 - COMPRESSOR ROOM

53 - FLUSH COLOR
54 - DYE & FLUSH COLOR
56 - DYE
57 - DYE & FLUSH COLOR
58 - DYE
59 - FLUSH COLOR

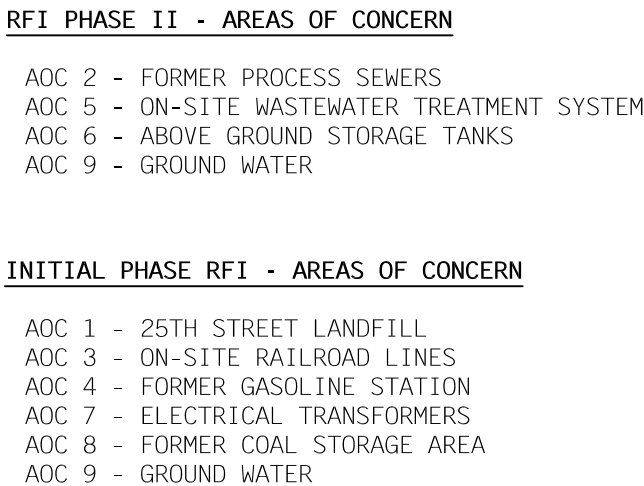
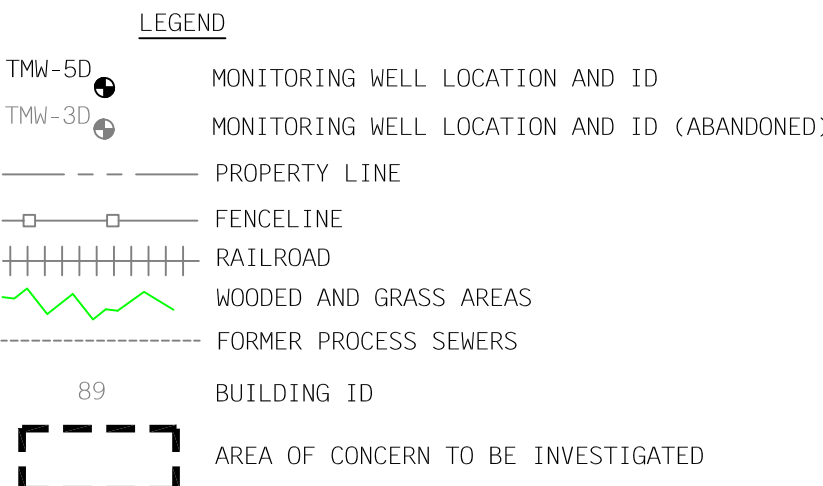
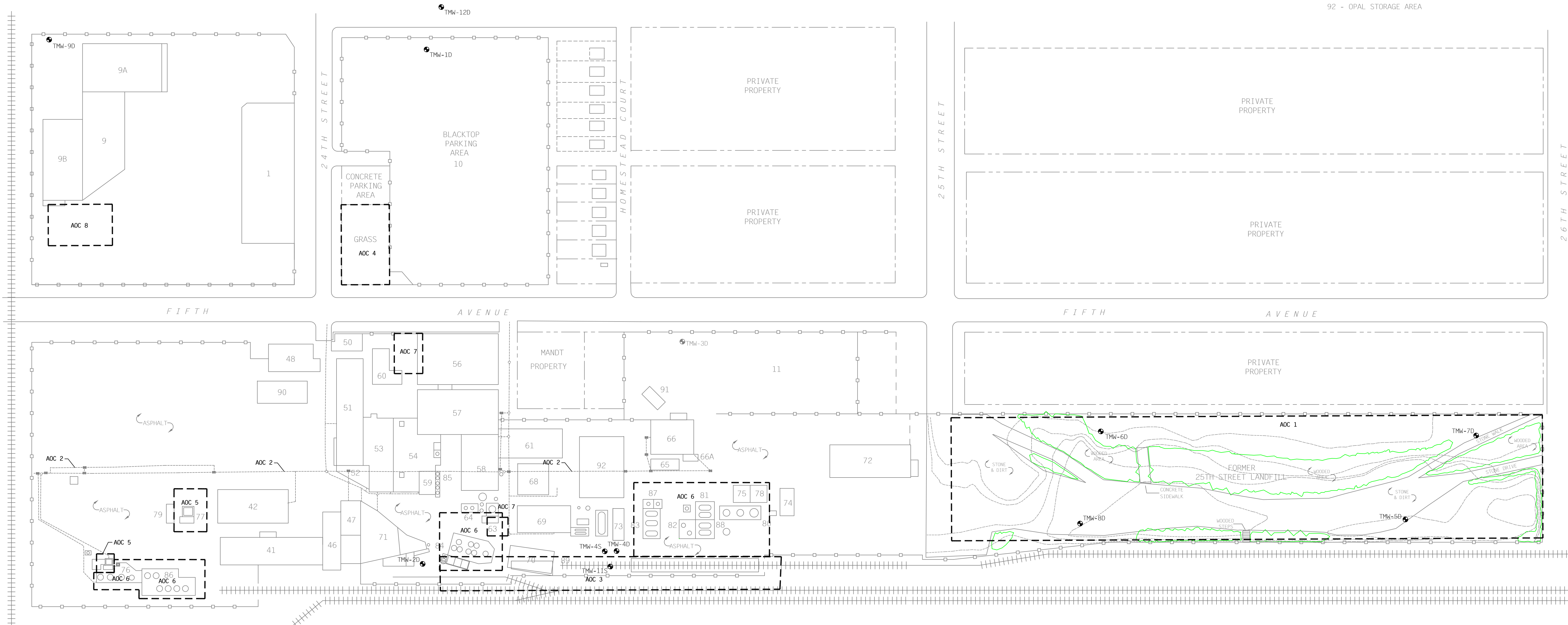
60 - ELECTRIC SUBSTATION
61 - DYE
63 - DYE
64 - PHENOL EXTRACTION
65 - PHENOL EXTRACTION
66 - STORAGE

66A - PHENOL EXTRACTION
68 - CONTROL BUILDING
69 - REFRIGERATION
70 - MIDPLANT DOCK
71 - BOILER HOUSE
72 - CARPENTER SHOP

73 - ELECTRIC SUBSTATION
74 - COOLING TOWER
75 - HAZARDOUS MATERIAL PAD
76 - WASTE TREATMENT
77 - WASTE TREATMENT
78 - HAZARDOUS MATERIAL PAD

79 - FIRE TRUCK GARAGE
80 - CAUSTIC, FORMALDEHYDE TANK FARM
81 - ANILINE TANK FARM
82 - ACID TANK FARM
83 - ANILINE TANK FARM
84 - MID PLANT TANK FARM

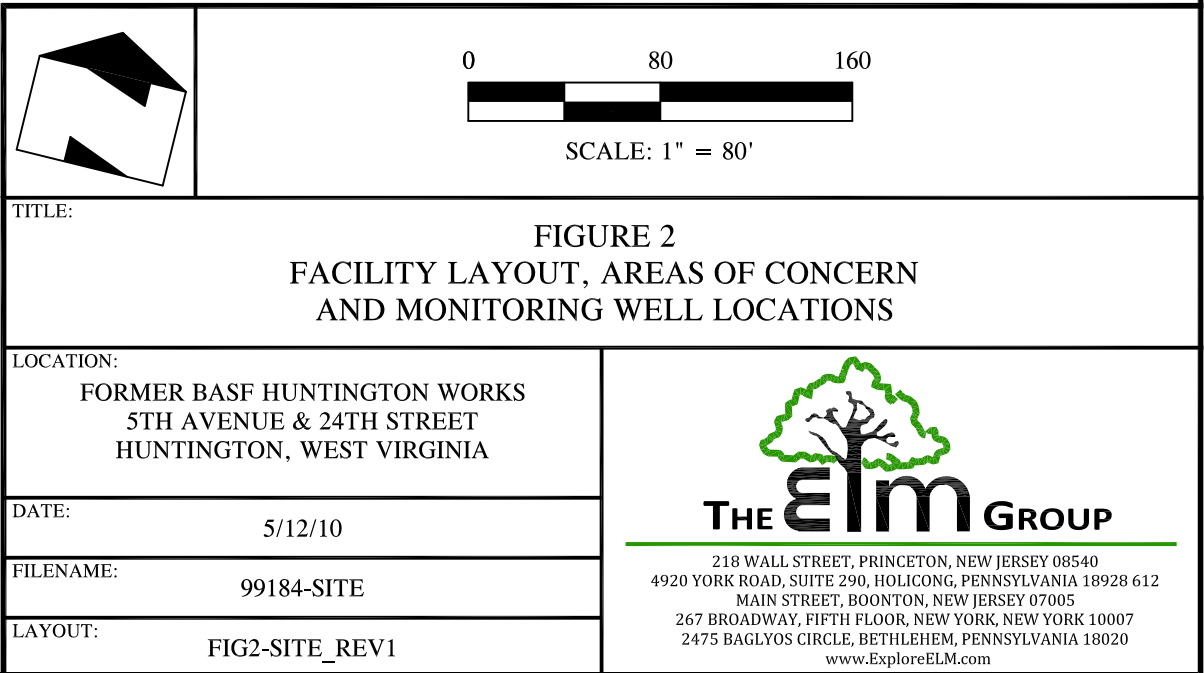
85 - SEPARATOR TANK FARM
86 - WEST END TANK FARM
87 - PHENOL EXTRACTION
88 - SULFURIC ACID TANK FARM
89 - RAILCAR UNLOADING RACK
90 - WEST TRUCK LOADING PAD
91 - EAST UNLOADING PAD
92 - OPAL STORAGE AREA



SOURCE:

1. "GENERAL PLANT MAP HUNTINGTON WORKS", DRAWING NUMBER 0110-HUN-W1-GEN-001, BY BASF CORPORATION, DATED FEBRUARY, 1996, REVISION 13

2. "HYDROLOGIC INVESTIGATION FOR LANDFILL CLOSURE 25TH STREET LANDFILL PLAN", PLAN NO. B243, BY SMC MARTIN, INC., DATED JUNE, 1981





TMW-4D

TMW-3D

-x-x-x-

+++++

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←

MONITORING WELL LOCATION AND ID  
MONITORING WELL LOCATION AND ID  
PROPERTY LINE  
FENCELINE  
RAILROAD  
GROUND WATER ELEVATION CONTOUR (FEET)  
CONTOUR INTERVAL = 0.20 FEET  
INFERRED GROUND WATER FLOW DIRECTION

| GROUND WATER ELEVATION DATA (FEET) |        |        |        |        |        |        |        |        |         |        |         |
|------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|---------|
| Well ID                            | TM-1WD | TMW-2D | TMW-4D | TMW-5D | TMW-6D | TMW-7D | TMW-8D | TMW-9D | TMW-12D | TMW-4S | TMW-11S |
| GWE (ft MSL)                       | 523.57 | 524.34 | 524.15 | 523.83 | 523.92 | 523.69 | 523.92 | 523.48 | 523.56  | 524.13 | 524.13  |

- NOTES:
1. DEPTH TO GROUND WATER WAS MEASURED ON JULY 22, 2009.
  2. GROUND WATER CONTOUR WERE GENERATED USING SURFER V8.0 WITH A KRIGGING ROUTINE
  3. GROUND WATER DATA FROM TMW-4S AND TMW-11S WERE NOT USED TO GENERATE CONTOURS.
  4. TMW-3D WAS ABANDONED IN FEBRUARY 2003

0200400

1" = 200'

TITLE:

FIGURE 3  
POTENTIOMETRIC CONTOURS FOR GROUND WATER  
JULY 2009

LOCATION:

FORMER BASF HUNTINGTON WORKS  
5TH AVENUE AND 24TH STREET  
HUNTINGTON, WEST VIRGINIA

DATE:

5/12/10

FILENAME:

99184\_GWDATA\_2009

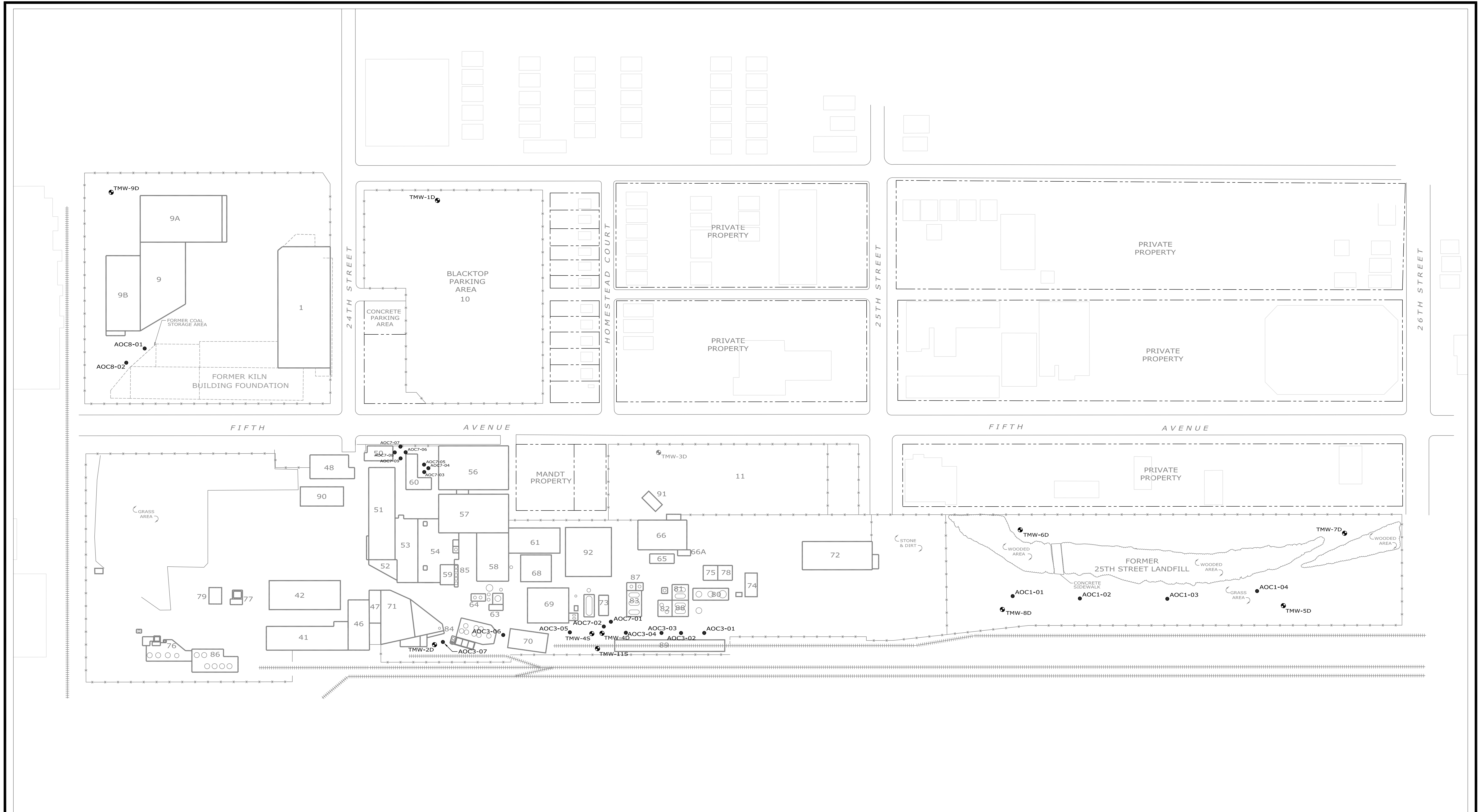
LAYOUT:

GWC 7-22-09

The EIM Group

218 WALL STREET, PRINCETON, NEW JERSEY 08540  
4920 YORK ROAD, SUITE 290, HOLICONG, PENNSYLVANIA 18928  
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267 BROADWAY, FIFTH FLOOR, NEW YORK, NEW YORK 10007  
2475 BAGLYOS CIRCLE, BETHLEHEM, PENNSYLVANIA 18020  
www.ExploreEIM.com





LEGEND

- PROPERTY LINE (APPROX.)
- EXISTING BUILDING AND BUILDING ID
- RAILROAD TRACK
- FENCELINE
- AOC7-07 BORING LOCATION AND ID
- TMW-2D MONITORING WELL LOCATION AND ID
- TMW-3D MONITORING WELL LOCATION AND ID (ABANDONED)

- NOTES:
- LOCATIONS OF MONITORING WELLS WERE SURVEYED BY WEST VIRGINIA LICENSED SURVEYOR.
  - LOCATIONS OF SOIL BORINGS WERE CAPTURED USING GPS AND DATA WAS POST-PROCESSED USING A WVDEP BASE STATION.

- SOURCE:
- "GENERAL PLANT MAP HUNTINGTON WORKS", DRAWING NUMBER 0110-HUN-W1-GEN-001, BY BASF CORPORATION, DATED FEBRUARY, 1996, REVISION 13
  - "HYDROLOGIC INVESTIGATION FOR LANDFILL CLOSURE 25TH STREET LANDFILL PLAN", PLAN NO. 8243, BY SMC MARTIN, INC., DATED JUNE, 1981

TITLE:

FIGURE 4

INITIAL RFI SOIL SAMPLE AND MONITORING WELL LOCATIONS

LOCATION:

FORMER BASF HUNTINGTON WORKS

5TH AVENUE AND 24TH STREET

HUNTINGTON, WEST VIRGINIA

DATE:

5/12/10

FILENAME:

99184\_GWDATA\_2009

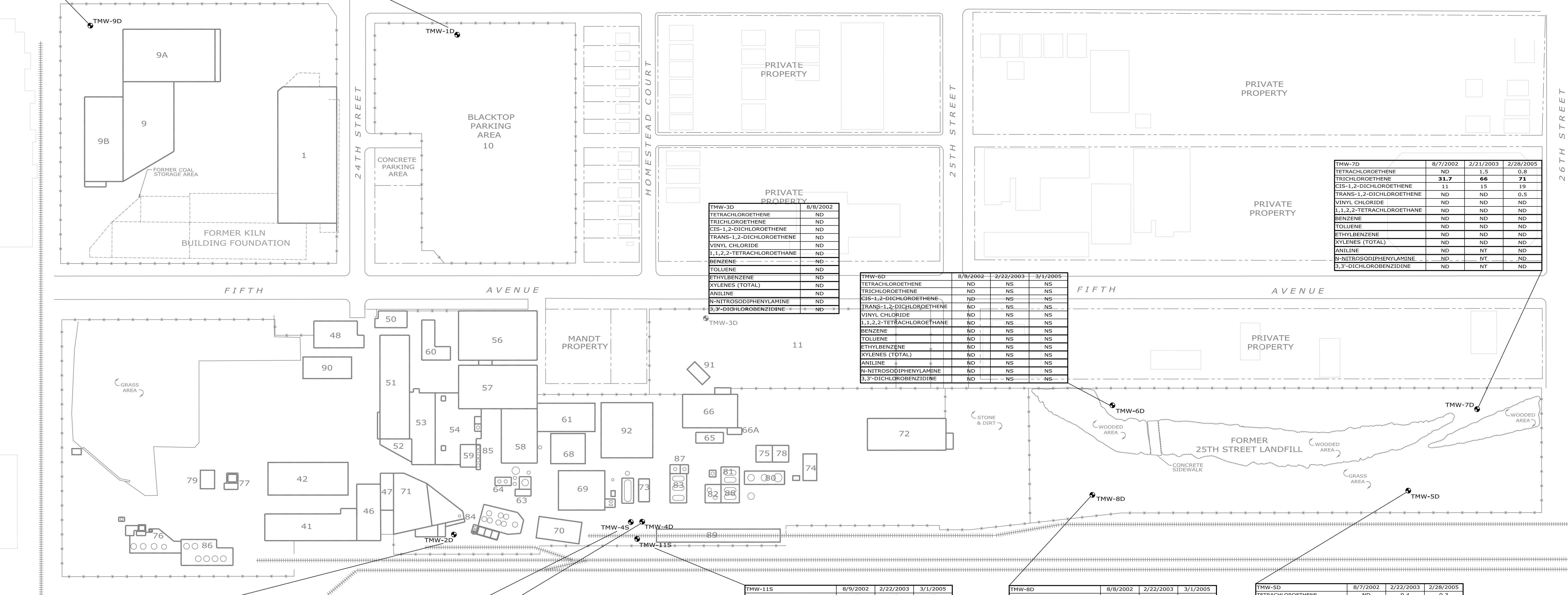
LAYOUT:

PH1 SOIL SAMPLE MAP

218 WALL STREET, PRINCETON, NEW JERSEY 08540  
4920 YORK ROAD, SUITE 200, HOLLISTON, PENNSYLVANIA 18928  
612 MAIN STREET, BOONTON, NEW JERSEY 07005  
267 BROADWAY, FIFTH FLOOR, NEW YORK, NEW YORK 10007  
2475 BAGLYOS CIRCLE, BETHELEHEM, PENNSYLVANIA 18020  
www.ElmGroupELM.com

| TMW-9D                    | 8/6/2002 | 2/22/2003 | 3/1/2005 |
|---------------------------|----------|-----------|----------|
| TETRACHLOROETHENE         | ND       | NS        | NS       |
| TRICHLOROETHENE           | 1.3      | NS        | NS       |
| CIS-1,2-DICHLOROETHENE    | ND       | NS        | NS       |
| TRANS-1,2-DICHLOROETHENE  | ND       | NS        | NS       |
| VINYL CHLORIDE            | ND       | NS        | NS       |
| 1,1,2,2-TETRACHLOROETHANE | ND       | NS        | NS       |
| BENZENE                   | ND       | NS        | NS       |
| TOLUENE                   | ND       | NS        | NS       |
| ETHYLBENZENE              | ND       | NS        | NS       |
| XYLENES (TOTAL)           | ND       | NS        | NS       |
| ANILINE                   | ND       | NS        | NS       |
| N-NITROSODIPHENYLAMINE    | ND       | NS        | NS       |
| 3,3'-DICHLOROBENZIDINE    | ND       | NS        | NS       |

| TMW-1D                    | 8/7/2002 | 2/22/2003 | 2/28/2005 |
|---------------------------|----------|-----------|-----------|
| TETRACHLOROETHENE         | ND       | ND        | ND        |
| TRICHLOROETHENE           | 141      | 100       | 67        |
| CIS-1,2-DICHLOROETHENE    | 23.2     | 32        | 22        |
| TRANS-1,2-DICHLOROETHENE  | 79       | 60        | 34        |
| VINYL CHLORIDE            | 2.8      | 2.2       | 3.6       |
| 1,1,2,2-TETRACHLOROETHANE | 17.8     | 12        | 5.2       |
| BENZENE                   | ND       | ND        | ND        |
| TOLUENE                   | ND       | ND        | ND        |
| ETHYLBENZENE              | ND       | ND        | ND        |
| XYLENES (TOTAL)           | ND       | ND        | ND        |
| ANILINE                   | ND       | NT        | ND        |
| N-NITROSODIPHENYLAMINE    | ND       | NT        | ND        |
| 3,3'-DICHLOROBENZIDINE    | ND       | NT        | ND        |



| TMW-2D                    | 8/8/2002 | 2/22/2003 | 3/1/2005 |
|---------------------------|----------|-----------|----------|
| TETRACHLOROETHENE         | ND       | NS        | ND       |
| TRICHLOROETHENE           | ND       | NS        | 0.9      |
| CIS-1,2-DICHLOROETHENE    | ND       | NS        | 0.2      |
| TRANS-1,2-DICHLOROETHENE  | ND       | NS        | ND       |
| VINYL CHLORIDE            | ND       | NS        | ND       |
| 1,1,2,2-TETRACHLOROETHANE | ND       | NS        | ND       |
| BENZENE                   | ND       | NS        | ND       |
| TOLUENE                   | ND       | NS        | ND       |
| ETHYLBENZENE              | ND       | NS        | ND       |
| XYLENES (TOTAL)           | ND       | NS        | ND       |
| ANILINE                   | ND       | NS        | 0.4      |
| N-NITROSODIPHENYLAMINE    | ND       | NS        | ND       |
| 3,3'-DICHLOROBENZIDINE    | ND       | NS        | ND       |

| TMW-4S                    | 8/9/2002 | 2/22/2003 | 3/1/2005 |
|---------------------------|----------|-----------|----------|
| TETRACHLOROETHENE         | ND       | ND        | ND       |
| TRICHLOROETHENE           | ND       | ND        | ND       |
| CIS-1,2-DICHLOROETHENE    | ND       | ND        | ND       |
| TRANS-1,2-DICHLOROETHENE  | ND       | ND        | ND       |
| VINYL CHLORIDE            | ND       | ND        | ND       |
| 1,1,2,2-TETRACHLOROETHANE | ND       | ND        | ND       |
| BENZENE                   | 107      | ND        | 18       |
| TOLUENE                   | 11700    | 8200      | 120      |
| ETHYLBENZENE              | 39000    | 29000     | 2600     |
| XYLENES (TOTAL)           | 128100   | 110000    | 5600     |
| ANILINE                   | 118      | 1200      | 13       |
| N-NITROSODIPHENYLAMINE    | 90.1     | 45        | 130      |
| 3,3'-DICHLOROBENZIDINE    | ND       | ND        | 2        |

| TMW-4D                    | 8/9/2002 | 2/22/2003 | 2/28/2005 |
|---------------------------|----------|-----------|-----------|
| TETRACHLOROETHENE         | ND       | ND        | ND        |
| TRICHLOROETHENE           | ND       | ND        | ND        |
| CIS-1,2-DICHLOROETHENE    | ND       | ND        | ND        |
| TRANS-1,2-DICHLOROETHENE  | ND       | ND        | ND        |
| VINYL CHLORIDE            | ND       | ND        | ND        |
| 1,1,2,2-TETRACHLOROETHANE | ND       | ND        | ND        |
| BENZENE                   | ND       | ND        | ND        |
| TOLUENE                   | ND       | ND        | ND        |
| ETHYLBENZENE              | 73.6     | 7         | ND        |
| XYLENES (TOTAL)           | 65       | 0.3       | ND        |
| ANILINE                   | ND       | NT        | ND        |
| N-NITROSODIPHENYLAMINE    | ND       | NT        | ND        |
| 3,3'-DICHLOROBENZIDINE    | ND       | NT        | ND        |

| TMW-11S                   | 8/9/2002 | 2/22/2003 | 3/1/2005 |
|---------------------------|----------|-----------|----------|
| TETRACHLOROETHENE         | NS       | NS        | ND       |
| TRICHLOROETHENE           | NS       | NS        | ND       |
| CIS-1,2-DICHLOROETHENE    | NS       | NS        | ND       |
| TRANS-1,2-DICHLOROETHENE  | NS       | NS        | ND       |
| VINYL CHLORIDE            | NS       | NS        | ND       |
| 1,1,2,2-TETRACHLOROETHANE | NS       | NS        | ND       |
| BENZENE                   | NS       | NS        | 85       |
| TOLUENE                   | NS       | NS        | 4400     |
| ETHYLBENZENE              | NS       | NS        | 12000    |
| XYLENES (TOTAL)           | NS       | NS        | 42000    |
| ANILINE                   | NS       | NS        | 19       |
| N-NITROSODIPHENYLAMINE    | NS       | NS        | 70       |
| 3,3'-DICHLOROBENZIDINE    | NS       | NS        | ND       |

| TMW-8D                    | 8/8/2002 | 2/22/2003 | 3/1/2005 |
|---------------------------|----------|-----------|----------|
| TETRACHLOROETHENE         | ND       | NS        | NS       |
| TRICHLOROETHENE           | ND       | NS        | NS       |
| CIS-1,2-DICHLOROETHENE    | ND       | NS        | NS       |
| TRANS-1,2-DICHLOROETHENE  | ND       | NS        | NS       |
| VINYL CHLORIDE            | ND       | NS        | NS       |
| 1,1,2,2-TETRACHLOROETHANE | ND       | NS        | NS       |
| BENZENE                   | ND       | NS        | NS       |
| TOLUENE                   | ND       | NS        | NS       |
| ETHYLBENZENE              | ND       | NS        | NS       |
| XYLENES (TOTAL)           | ND       | NS        | NS       |
| ANILINE                   | ND       | NS        | NS       |
| N-NITROSODIPHENYLAMINE    | ND       | NS        | NS       |
| 3,3'-DICHLOROBENZIDINE    | ND       | NS        | NS       |

| TMW-5D                    | 8/7/2002 | 2/22/2003 | 2/28/2005 |
|---------------------------|----------|-----------|-----------|
| TETRACHLOROETHENE         | ND       | 0.4       | 0.3       |
| TRICHLOROETHENE           | 11.4     | 19        | 20        |
| CIS-1,2-DICHLOROETHENE    | 3.3      | 3.8       | 6.9       |
| TRANS-1,2-DICHLOROETHENE  | ND       | ND        | 0.2       |
| VINYL CHLORIDE            | ND       | ND        | ND        |
| 1,1,2,2-TETRACHLOROETHANE | ND       | ND        | ND        |
| BENZENE                   | ND       | ND        | ND        |
| TOLUENE                   | ND       | ND        | ND        |
| ETHYLBENZENE              | ND       | ND        | ND        |
| XYLENES (TOTAL)           | ND       | ND        | ND        |
| ANILINE                   | ND       | NT        | ND        |
| N-NITROSODIPHENYLAMINE    | ND       | NT        | ND        |
| 3,3'-DICHLOROBENZIDINE    | ND       | NT        | ND        |

LEGEND

--- PROPERTY LINE (APPROX.)

70 EXISTING BUILDING AND BUILDING ID

RAILROAD TRACK

FENCELINE

TMW-2D MONITORING WELL LOCATION AND ID

TMW-3D MONITORING WELL LOCATION AND ID (ABANDONED)

| COMPOUND                  | WVDEP GW |
|---------------------------|----------|
| TETRACHLOROETHENE         | 5        |
| TRICHLOROETHENE           | 5        |
| CIS-1,2-DICHLOROETHENE    | 70       |
| TRANS-1,2-DICHLOROETHENE  | 100      |
| VINYL CHLORIDE            | 2        |
| 1,1,2,2-TETRACHLOROETHANE | 0.055    |
| BENZENE                   | 5        |
| TOLUENE                   | 1000     |
| ETHYLBENZENE              | 1300     |
| XYLENES (TOTAL)           | 1000     |
| ANILINE                   | 12       |
| N-NITROSODIPHENYLAMINE    | 14       |
| 3,3'-DICHLOROBENZIDINE    | 0.15     |
| NOT DETECTED              | ND       |
| NOT SAMPLED               | NS       |

NOTES:

1. ALL CONCENTRATIONS ARE IN ug/L.
2. **BOLDED VALUES EXCEED THE WVDEP 60CSR3 TABLE 60-3B DE MINIMIS VALUES FOR GROUND WATER, EFFECTIVE JULY 2008.**
3. TMW-3D WAS ABANDONED IN FEBRUARY 2003.
4. EPA LOW-FLOW PURGING AND SAMPLING METHOD WAS USED FOR ALL SAMPLING EVENTS.
5. FOR THE FEBRUARY/MARCH 2005 SAMPLING EVENT, TMW-1D, TMW-5D, TMW-7D, AND TMW-11S WERE RESAMPLED ON MARCH 17, 2005 FOR SVOCs DUE TO THE SAMPLE BOTTLES BREAKING DURING SHIPMENT FROM THE INITIAL SAMPLING EVENT.

SOURCE:

1. "GENERAL PLANT MAP HUNTINGTON WORKS", DRAWING NUMBER 0110-HUN-W1-GEN-001, BY BASF CORPORATION, DATED FEBRUARY, 1996, REVISION 13
2. "HYDROLOGIC INVESTIGATION FOR LANDFILL CLOSURE 25TH STREET LANDFILL PLAN", PLAN NO. 8243, BY SMC MARTIN, INC., DATED JUNE, 1981

TITLE: **FIGURE 5**  
**INITIAL RFI VOLATILE AND SEMI-VOLATILE ORGANIC RESULTS FOR GROUND WATER 2002 - 2005**

LOCATION: FORMER BASF HUNTINGTON WORKS  
5TH AVENUE AND 24TH STREET  
HUNTINGTON, WEST VIRGINIA

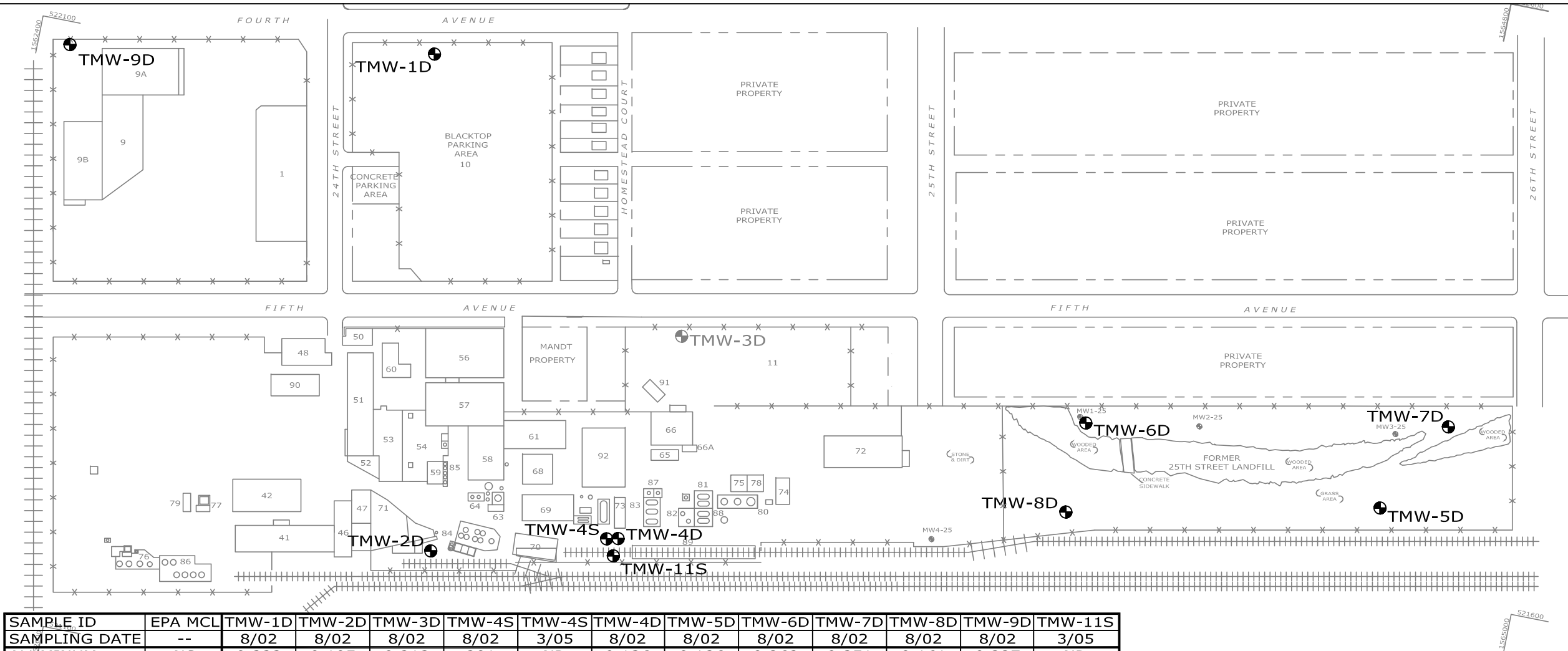
DATE: 5/13/10

FILENAME: 99184\_GWDATA\_2009

LAYOUT: INITIAL\_RFI\_VOCS

**The Elm Group**  
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| SAMPLE ID     | EPA MCL | TMW-1D | TMW-2D        | TMW-3D | TMW-4S       | TMW-4S | TMW-4D | TMW-5D | TMW-6D | TMW-7D | TMW-8D | TMW-9D | TMW-11S       |
|---------------|---------|--------|---------------|--------|--------------|--------|--------|--------|--------|--------|--------|--------|---------------|
| SAMPLING DATE | --      | 8/02   | 8/02          | 8/02   | 8/02         | 3/05   | 8/02   | 8/02   | 8/02   | 8/02   | 8/02   | 8/02   | 3/05          |
| ALUMINUM      | NS      | 0.333  | 0.195         | 0.213  | 201          | ND     | 0.136  | 0.186  | 0.268  | 0.351  | 0.161  | 0.227  | ND            |
| ANTIMONY      | 0.006   | ND     | ND            | ND     | ND           | ND     | ND     | ND     | ND     | ND     | ND     | 0.0025 | ND            |
| ARSENIC       | 0.01    | ND     | <b>0.0193</b> | ND     | ND           | 0.0067 | ND     | ND     | ND     | ND     | ND     | ND     | <b>0.0188</b> |
| BARIUM        | 2       | 0.056  | 0.25          | 0.121  | <b>43.2</b>  | 0.115  | 0.0836 | 0.159  | 0.0988 | 0.159  | 0.0659 | 0.0307 | 0.18          |
| CADMIUM       | 0.005   | ND     | ND            | ND     | <b>0.022</b> | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND            |
| CALCIUM       | NS      | 101    | 46            | 83.7   | 244          | 113    | 98.6   | 57.5   | 107    | 84.4   | 101    | 111    | 116           |
| CHROMIUM      | 0.1     | ND     | ND            | ND     | ND           | ND     | ND     | ND     | ND     | 0.0056 | ND     | ND     | ND            |
| COBALT        | NS      | ND     | ND            | ND     | ND           | 0.0117 | ND     | 0.0095 | 0.0053 | ND     | 0.0053 | 0.009  | 0.0064        |
| COPPER        | 1.3     | ND     | ND            | ND     | 0.75         | 0.077  | ND     | ND     | ND     | ND     | ND     | ND     | ND            |
| IRON          | NS      | 1.99   | 16.8          | 5.42   | 1620         | 62.3   | 7.04   | 1      | 0.43   | 2.98   | 0.369  | 0.939  | 98.5          |
| LEAD          | 0.015   | ND     | ND            | ND     | <b>0.87</b>  | ND     | ND     | ND     | ND     | ND     | ND     | ND     | ND            |
| MAGNESIUM     | NS      | 22.2   | 10.1          | 25.8   | 59.7         | 19.6   | 29.6   | 14.5   | 18.1   | 16.6   | 21.9   | 24     | 11.5          |
| MANGANESE     | NS      | 10.8   | 5.53          | 8.52   | 80.1         | 27.7   | 1.62   | 2.95   | 2.31   | 1.59   | 1.81   | 6      | 5.86          |
| NICKEL        | NS      | ND     | ND            | ND     | 0.72         | 0.0051 | ND     | 0.0127 | 0.0128 | 0.0125 | 0.0119 | 0.0181 | 0.0025        |
| POTASSIUM     | NS      | 1.03   | 25.7          | 2.85   | 36.6         | 18.5   | 2.29   | 2.36   | 3.09   | 6.52   | 3.15   | 2      | 2.52          |
| SODIUM        | NS      | 32     | 98.6          | 36     | 288          | 59.3   | 24.9   | 31.3   | 29     | 28.2   | 45     | 36     | 25.2          |
| ZINC          | NS      | ND     | ND            | ND     | 1.78         | 0.0125 | ND     | ND     | ND     | ND     | ND     | ND     | ND            |

ND NOT DETECTED  
NS NOT SAMPLED

LEGEND

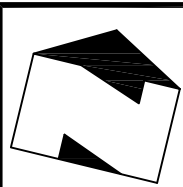
- TMW-1D MONITORING WELL LOCATION AND ID
- TMW-3D MONITORING WELL LOCATION AND ID (ABANDONED)
- PROPERTY LINE
- FENCELINE
- RAILROAD
- BUILDING ID

NOTES:

- ONLY DETECTED PARAMETERS ARE SHOWN.
- 2) BOLDED COMPOUNDS EXCEED THE EPA REGION 3 MCL / WVDEP 46CSR12.**
- ALL RESULTS ARE IN ug/L.
- MONITORING WELLS WERE SAMPLED FOR PCBs IN AUGUST 2002 BUT NOT IN FEBRUARY/MARCH 2005.
- PCBs WERE NOT DETECTED IN GROUND WATER FOR AUGUST 2002.

SOURCE:

- "GENERAL PLANT MAP HUNTINGTON WORKS", DRAWING NUMBER 0110-HUN-W1-GEN-001, BY BASF CORPORATION, DATED FEBRUARY, 1996, REVISION 13.
- SANBORN MAP, W.VA. INSPECTION BUREAU, THE STANDARD ULTRAMARINE CO. REPORT NO. 1936. APRIL 20, 1938.



0 200 400



SCALE: 1" = 200'

TITLE:

FIGURE 6

INITIAL RFI TOTAL PCBs AND METALS RESULTS FOR GROUND WATER  
2002 AND 2005

LOCATION:

FORMER BASF HUNTINGTON WORKS  
5TH AVENUE AND 24TH STREET  
HUNTINGTON, WEST VIRGINIA

DATE:

5/13/10

FILENAME:

99184\_GWC

LAYOUT:

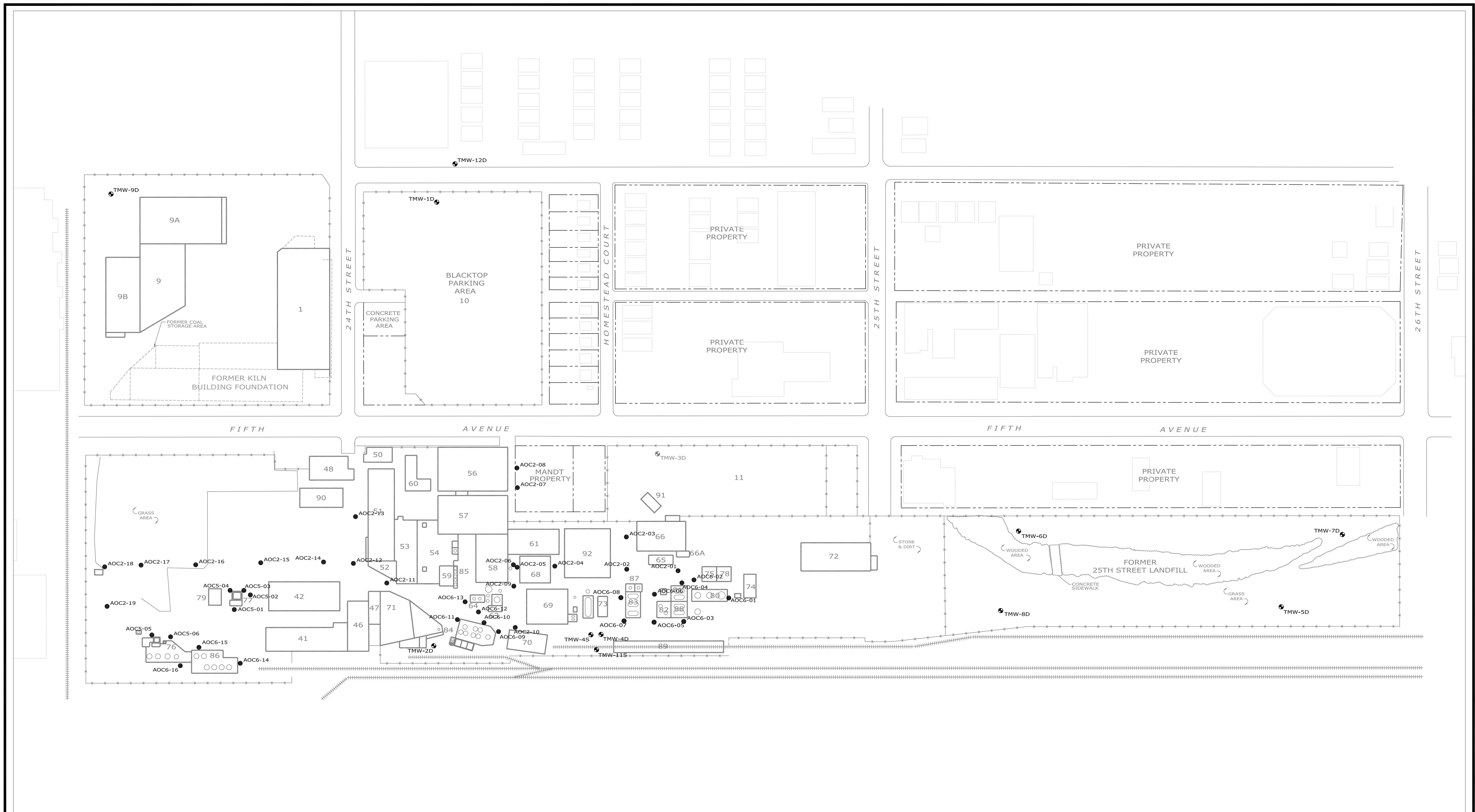
GW\_DATA\_METALS-REV1



THE **elm** GROUP

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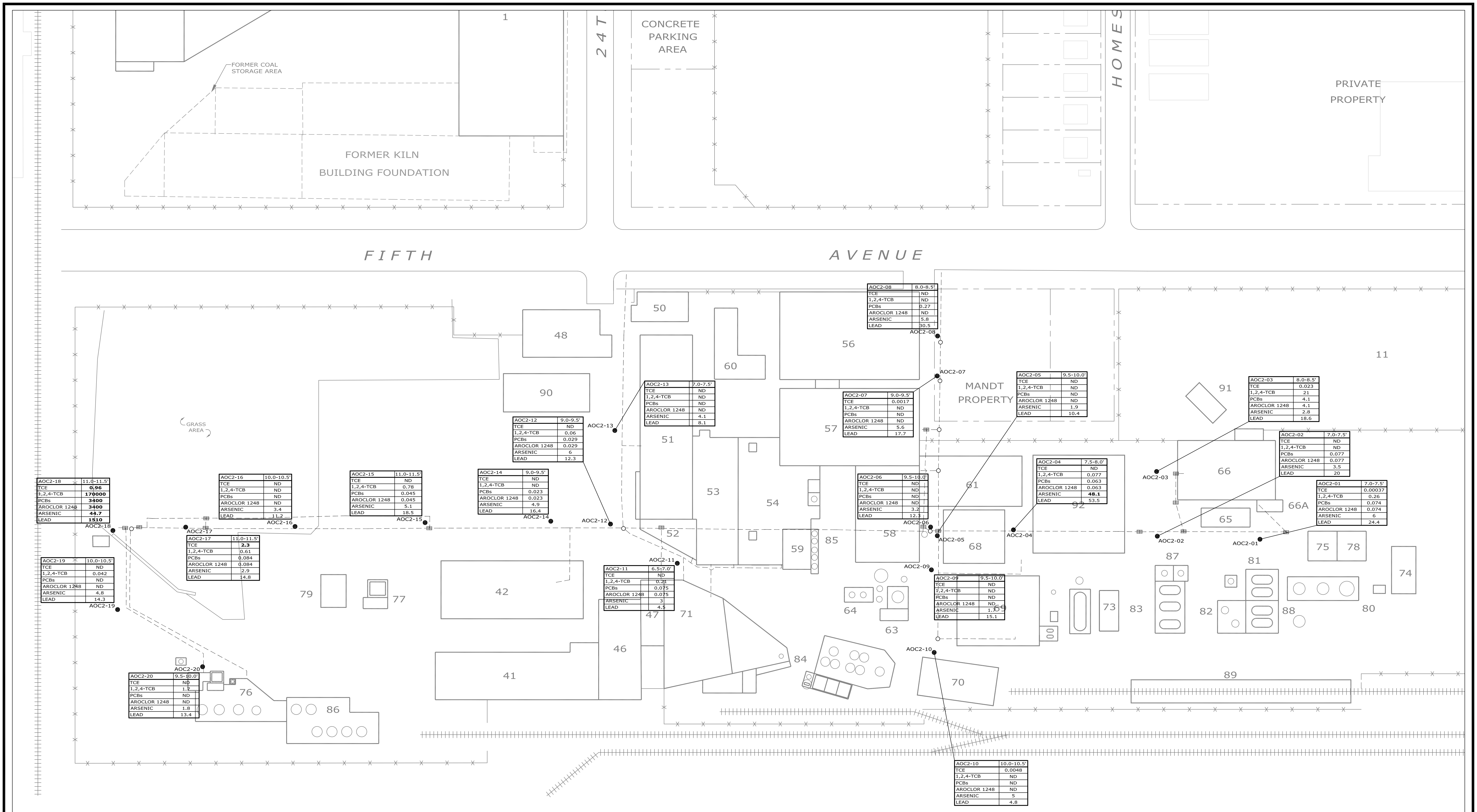


- LEGEND**
- PROPERTY LINE (APPROX.)
  - 70 EXISTING BUILDING AND BUILDING ID
  - RAILROAD TRACK
  - FENCELINE
  - AOC6-11 BORING LOCATION AND ID
  - TMW-2D MONITORING WELL LOCATION AND ID
  - TMW-3D MONITORING WELL LOCATION AND ID (ABANDONED)

- SOURCE:**
- "GENERAL PLANT MAP HUNTINGTON WORKS", DRAWING NUMBER 0110-HUN-W1-GEN-001, BY BASF CORPORATION, DATED FEBRUARY, 1996, REVISION 13
  - "HYDROLOGIC INVESTIGATION FOR LANDFILL CLOSURE 25TH STREET LANDFILL PLAN", PLAN NO. 8243, BY SMC MARTIN, INC., DATED JUNE, 1981

|                                                                                                          |  |  |  |
|----------------------------------------------------------------------------------------------------------|--|--|--|
|                                                                                                          |  |  |  |
| <b>TITLE:</b> FIGURE 8<br>RFI PHASE II SOIL SAMPLE AND MONITORING WELL LOCATIONS<br>JULY 2009            |  |  |  |
| <b>LOCATION:</b> FORMER BASF HUNTINGTON WORKS<br>5TH AVENUE AND 24TH STREET<br>HUNTINGTON, WEST VIRGINIA |  |  |  |
| <b>DATE:</b> 5/13/10                                                                                     |  |  |  |
| <b>FILENAME:</b> 99184_GWDATA_2009                                                                       |  |  |  |
| <b>LAYOUT:</b> SAMPLE MAP                                                                                |  |  |  |





**LEGEND**

--- PROPERTY LINE (APPROX.)

70 EXISTING BUILDING AND BUILDING ID

RAILROAD TRACK

FENCELINE

--- FORMER PROCESS SEWER LINES

AOC2-11 AOC 2 BORING LOCATION AND ID

TMW-2D MONITORING WELL LOCATION AND ID

CATCH BASIN

|              |          |                                                       |
|--------------|----------|-------------------------------------------------------|
| AOC2-01      | 7.0-7.5' | SAMPLE ID AND DEPTH IN FEET                           |
| TCE          | 0.00037  | TRICHLOROETHENE RESULT IN ug/Kg (WVDEP=0.92)          |
| 1,2,4-TCB    | 0.26     | 1,2,4-TRICHLORO BENZENE RESULT IN ug/Kg (WVDEP=20000) |
| PCBs         | 0.074    | TOTAL PCBs RESULT IN mg/Kg (WVDEP=10)                 |
| AROCLOR 1248 | 0.074    | AROCLOR 1248 RESULT IN mg/Kg (WVDEP=10)               |
| ARSENIC      | 6        | ARSENIC RESULT IN mg/Kg (WVDEP=27)                    |
| LEAD         | 24.4     | LEAD RESULT IN mg/Kg (WVDEP=1000)                     |
|              | ND       | NOT DETECTED                                          |

**NOTES:**

1. **BOLDED VALUES EXCEED THE JULY 2008 WVDEP INDUSTRIAL SOIL DE MINIMIS STANDARDS (WVDEP)(SEE LEGEND).**

2. RESULTS ARE IN mg/Kg.

3. SOIL SAMPLES WERE ANALYZED FOR RCRA APPENDIX IX VOCs, SVOCs, PCBs AND METALS.

4. SOIL SAMPLES WERE COLLECTED ON JULY 9, 10, 13 AND 14, 2009 BY THE ELM GROUP.

5. A DUPLICATE SAMPLE, AOC2-21-8.0 WAS COLLECTED WITH SAMPLE AOC2-08-8.0.

6. SAMPLE LOCATIONS ARE BASED ON POST-PROCESSED GPS DATA.

**SOURCE:**

1. "GENERAL PLANT MAP HUNTINGTON WORKS", DRAWING NUMBER 0110-HUN-W1-GEN-001, BY BASF CORPORATION, DATED FEBRUARY, 1996, REVISION 13.

2. "HYDROLOGIC INVESTIGATION FOR LANDFILL CLOSURE 25TH STREET LANDFILL PLAN", PLAN NO. 8243, BY SMC MARTIN, INC., DATED JUNE, 1981.

0 40 80

SCALE: 1"=40'

**TITLE:**

FIGURE 9  
AOC 2 FORMER PROCESS SEWERS - EXCEEDANCES TO THE  
WVDEP INDUSTRIAL SOIL DE MINIMIS STANDARDS

**LOCATION:**

FORMER BASF HUNTINGTON WORKS  
5TH AVENUE AND 24TH STREET  
HUNTINGTON, WEST VIRGINIA

**DATE:**

5/13/10

**FILENAME:**

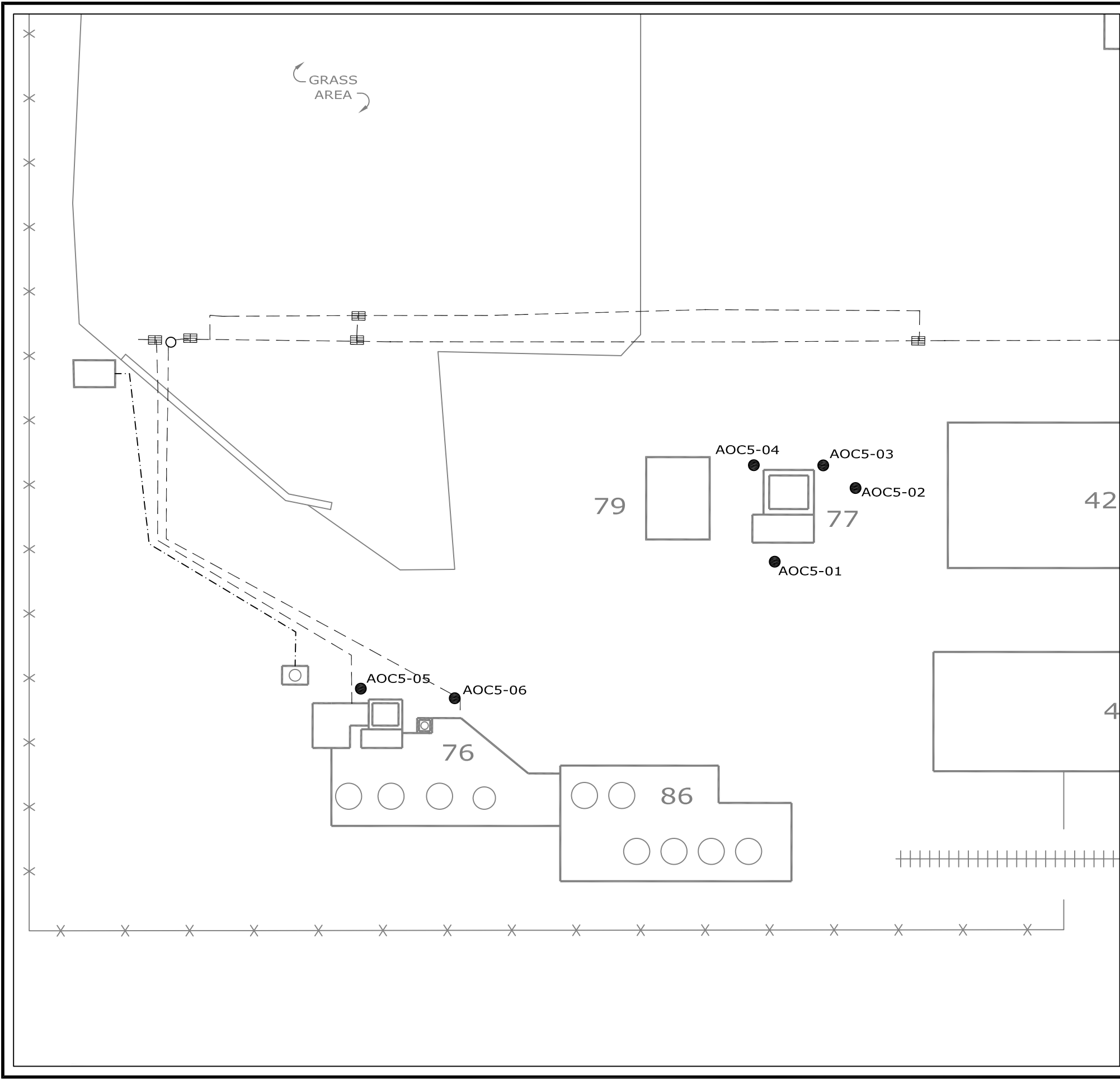
99184\_RFL\_PhaseII\_SOIL

**LAYOUT:**

AOC2

**The Elm Group**

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**LEGEND**

70

EXISTING BUILDING AND BUILDING ID

|||||

RAILROAD TRACK

—X—

FENCELINE

----

FORMER SUBSURFACE PROCESS SEWER LINES

AOC5-01●

AOC 5 BORING LOCATION AND ID

▤

CATCH BASIN

-----

EXISTING SUBSURFACE PROCESS SEWER LINE (APPROXIMATE).

| SAMPLE LOCATION | SAMPLE ID    | SAMPLE DEPTH (ft. bgs) |
|-----------------|--------------|------------------------|
| AOC5-01         | AOC5-01-20.0 | 20.0 - 20.5            |
| AOC5-02         | AOC5-02-20.0 | 20.0 - 20.5            |
| AOC5-03         | AOC5-03-20.0 | 20.0 - 20.5            |
| AOC5-04         | AOC5-04-21.5 | 21.0 - 21.5            |
| AOC5-05         | AOC5-05-22.0 | 22.0 - 22.5            |
| AOC5-06         | AOC5-06-20.0 | 20.0 - 20.5            |

- NOTES:
1. NO EXCEEDANCES TO THE WVDEP INDUSTRIAL SOIL DE MINIMIS STANDARDS WERE DETECTED IN SOIL SAMPLES COLLECTED FOR AOC 5.
  2. SOIL SAMPLES WERE ANALYZED FOR RCRA APPENDIX IX VOCs, SVOCs, PCBs AND METALS.
  3. A DUPLICATE SAMPLE, AOC5-07-20.0 WAS COLLECTED WITH SAMPLE AOC5-02-20.0.
  4. SOIL SAMPLES WERE COLLECTED ON JULY 9, 2009 BY THE ELM GROUP.
  5. SAMPLE LOCATIONS ARE BASED ON POST-PROCESSED GPS DATA.
  6. PIPING BETWEEN BLDG. 77 AND BLDG. 76 FOR WASTEWATER IS ABOVE GROUND AND ON ELEVATED RACKS.

- SOURCE:
1. "GENERAL PLANT MAP HUNTINGTON WORKS", DRAWING NUMBER 0110-HUN-W1-GEN-001, BY BASF CORPORATION, DATED FEBRUARY, 1996, REVISION 13.
  2. "HYDROLOGIC INVESTIGATION FOR LANDFILL CLOSURE 25TH STREET LANDFILL PLAN", PLAN NO. 8243, BY SMC MARTIN, INC., DATED JUNE, 1981.

04080

SCALE: 1"=40'

TITLE:

FIGURE 10  
AOC 5 ON-SITE WASTEWATER TREATMENT  
SYSTEM SAMPLE LOCATIONS AND RESULTS

LOCATION:

FORMER BASF HUNTINGTON WORKS  
5TH AVENUE AND 24TH STREET  
HUNTINGTON, WEST VIRGINIA

DATE:

5/14/10

FILENAME:

99184\_RFI\_PhaseII\_SOIL

LAYOUT:

AOC5

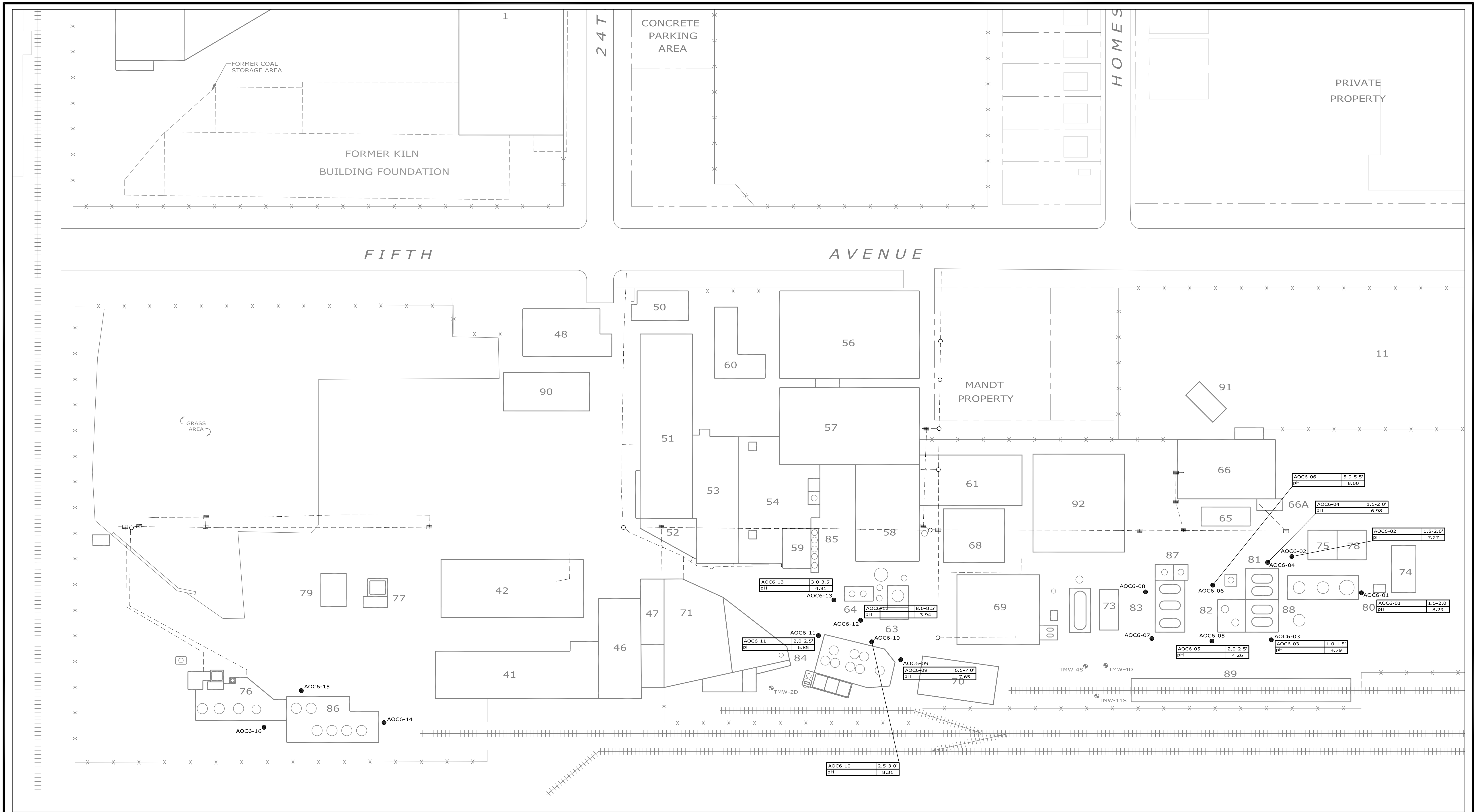
TheElmGroup

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LEGEND

- PROPERTY LINE (APPROX.)
- 70 EXISTING BUILDING AND BUILDING ID
- ++++ RAILROAD TRACK
- x- FENCELINE
- FORMER PROCESS SEWER LINES
- AOC6-11 ● AOC 6 BORING LOCATION AND ID
- TMW-2D ● MONITORING WELL LOCATION AND ID
- CATCH BASIN

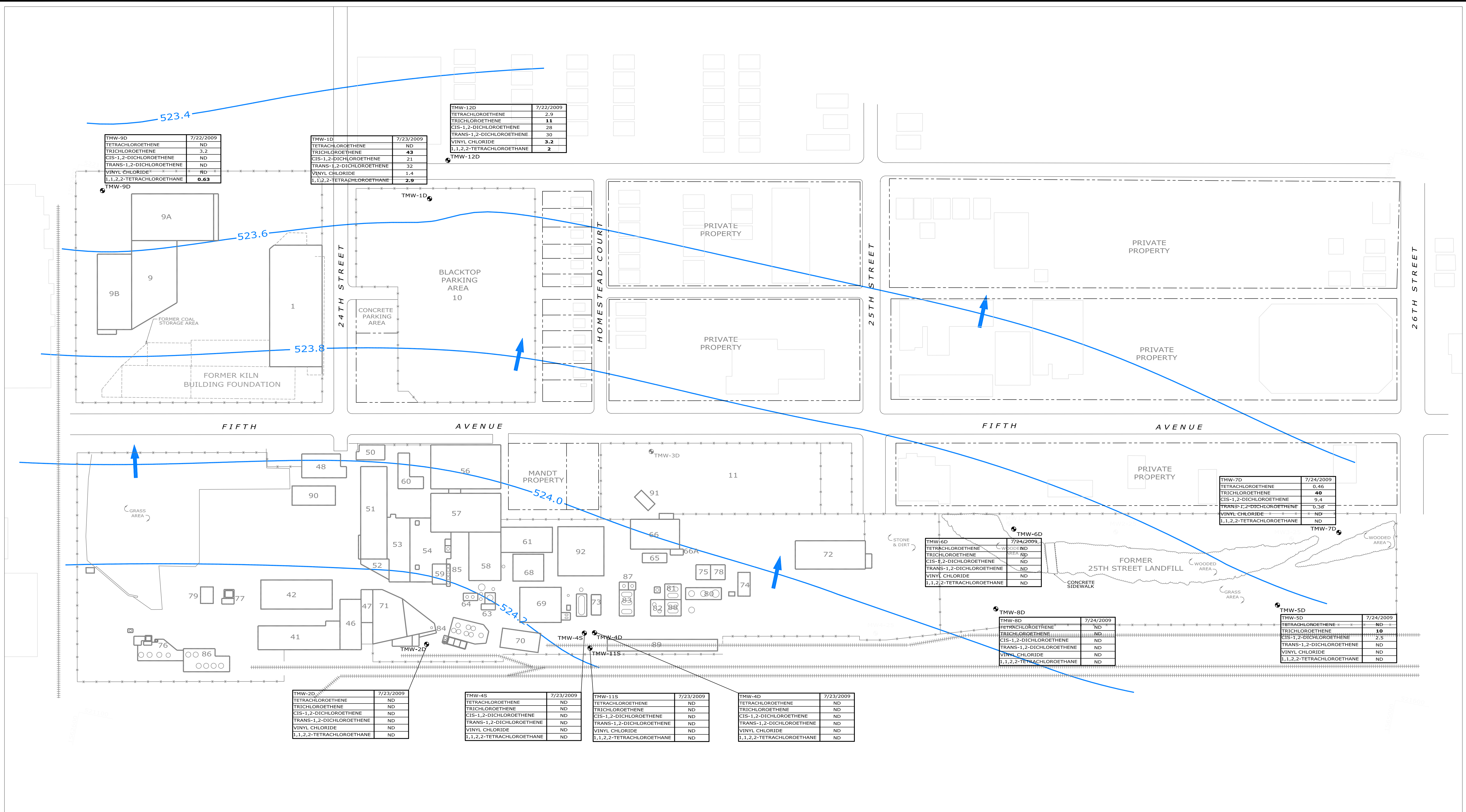
NOTES:

1. SOIL SAMPLES WERE COLLECTED ON JULY 14 & 15, 2009 BY THE ELM GROUP.
2. pH OF SOIL SAMPLES WERE ANALYZED IN THE FIELD IN ACCORDANCE WITH SW\_846 METHOD 9045D.
3. pH RESULTS ARE REPORTED IN STANDARD UNITS.
4. SAMPLE LOCATIONS ARE BASED ON POST-PROCESSED GPS DATA.

SOURCE:

1. "GENERAL PLANT MAP HUNTINGTON WORKS", DRAWING NUMBER 0110-HUN-W1-GEN-001, BY BASF CORPORATION, DATED FEBRUARY, 1996, REVISION 13.
2. "HYDROLOGIC INVESTIGATION FOR LANDFILL CLOSURE 25TH STREET LANDFILL PLAN", PLAN NO. 8243, BY SMC MARTIN, INC., DATED JUNE, 1981.

|                                                                                                      |  |  |  |
|------------------------------------------------------------------------------------------------------|--|--|--|
|                                                                                                      |  |  |  |
| TITLE:<br>FIGURE 12<br>AOC 6 ABOVE GROUND STORAGE TANKS SAMPLE<br>LOCATIONS AND pH RESULTS           |  |  |  |
| LOCATION:<br>FORMER BASF HUNTINGTON WORKS<br>5TH AVENUE AND 24TH STREET<br>HUNTINGTON, WEST VIRGINIA |  |  |  |
| DATE:<br>5/13/10                                                                                     |  |  |  |
| FILENAME:<br>99184_RFL_PhaseII_SOIL                                                                  |  |  |  |
| LAYOUT:<br>AOC6-PH                                                                                   |  |  |  |



LEGEND

- PROPERTY LINE (APPROX.)
- EXISTING BUILDING AND BUILDING ID
- RAILROAD TRACK
- FENCELINE
- GROUND WATER ELEVATION CONTOUR (FEET)  
CONTOUR INTERVAL = 0.2 FOOT  
DASHED WHERE INFERRED
- INTERPRETED GROUND WATER FLOW DIRECTION
- TMW-2D MONITORING WELL LOCATION AND ID
- TMW-3D MONITORING WELL LOCATION AND ID (ABANDONED)

| VOCs                      | WVDEP GW |
|---------------------------|----------|
| TETRACHLOROETHENE         | 5        |
| TRICHLOROETHENE           | 5        |
| CIS-1,2-DICHLOROETHENE    | 70       |
| TRANS-1,2-DICHLOROETHENE  | 100      |
| VINYL CHLORIDE            | 2        |
| 1,1,2,2-TETRACHLOROETHANE | 0.055    |
| NOT DETECTED              | ND       |

NOTES:

- ALL CONCENTRATIONS ARE IN ug/L.
- BOLDED VALUES EXCEED THE WVDEP 60CSR3 TABLE 60-38 DE MINIMIS VALUES FOR GROUND WATER, EFFECTIVE JULY 2008.**
- MONITORING WELLS WERE SAMPLED JULY 22-24, 2009 USING EPA LOW-FLOW PURGING AND SAMPLING METHOD.
- GROUND WATER SAMPLING WAS COMPLETED BY POTESTA & ASSOCIATES, INC. OF CHARLESTON, WEST VIRGINIA.
- TMW-3D WAS ABANDONED IN FEBRUARY 2003.
- GROUND WATER POTENTIOMETRIC CONTOURS ARE FOR JULY 2009.

SOURCE:

- "GENERAL PLANT MAP HUNTINGTON WORKS", DRAWING NUMBER 0110-HUN-W1-GEN-001, BY BASF CORPORATION, DATED FEBRUARY, 1996, REVISION 13
- "HYDROLOGIC INVESTIGATION FOR LANDFILL CLOSURE 25TH STREET LANDFILL PLAN", PLAN NO. 8243, BY SMC MARTIN, INC., DATED JUNE, 1981

080160

SCALE: 1" = 80'

TITLE:  
FIGURE 13  
CHLORINATED VOLATILE ORGANIC COMPOUND CONCENTRATIONS  
IN GROUND WATER JULY 2009

LOCATION:  
FORMER BASF HUNTINGTON WORKS  
5TH AVENUE AND 24TH STREET  
HUNTINGTON, WEST VIRGINIA

DATE:  
5/13/10

FILENAME:  
99184\_GWDATA\_2009

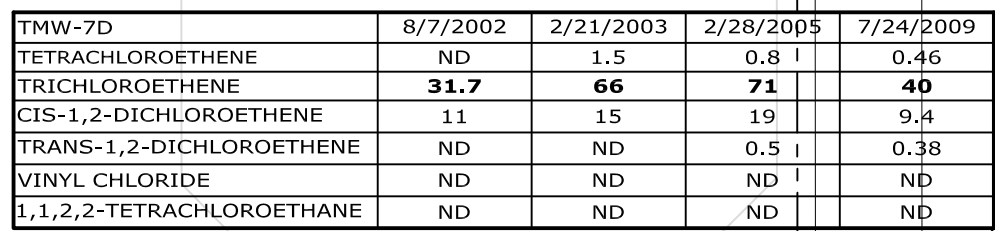
LAYOUT:  
2009\_VOC

218 WALL STREET, PRINCETON, NEW JERSEY 08540  
4920 YORK ROAD, SUITE 200, HOLLISTON, PENNSYLVANIA 18928  
612 MAIN STREET, BOONTON, NEW JERSEY 07005  
267 BROADWAY, FIFTH FLOOR, NEW YORK, NEW YORK 10007  
2475 BAGLYOS CIRCLE, BETHELEHEM, PENNSYLVANIA 18020  
www.ElmsGroup.com



| TMW-1D                    | 8/7/2002    | 2/23/2003  | 2/28/2005  | 7/23/2009  |
|---------------------------|-------------|------------|------------|------------|
| TETRACHLOROETHENE         | ND          | ND         | ND         | ND         |
| TRICHLOROETHENE           | <b>141</b>  | <b>100</b> | <b>67</b>  | <b>43</b>  |
| CIS-1,2-DICHLOROETHENE    | 23.2        | 32         | 22         | 21         |
| TRANS-1,2-DICHLOROETHENE  | 79          | 60         | 34         | 32         |
| VINYL CHLORIDE            | <b>2.8</b>  | <b>2.2</b> | <b>3.6</b> | 1.4        |
| 1,1,2,2-TETRACHLOROETHANE | <b>17.8</b> | <b>12</b>  | <b>5.2</b> | <b>2.9</b> |

| TMW-12D                   | 8/9/2002 | 2/22/2003 | 3/1/2005 | 7/22/2009  |
|---------------------------|----------|-----------|----------|------------|
| TETRACHLOROETHENE         | NS       | NS        | NS       | 2.9        |
| TRICHLOROETHENE           | NS       | NS        | NS       | <b>11</b>  |
| CIS-1,2-DICHLOROETHENE    | NS       | NS        | NS       | 28         |
| TRANS-1,2-DICHLOROETHENE  | NS       | NS        | NS       | 30         |
| VINYL CHLORIDE            | NS       | NS        | NS       | <b>3.2</b> |
| 1,1,2,2-TETRACHLOROETHANE | NS       | NS        | NS       | <b>2</b>   |



| TMW-2D                    | 8/8/2002 | 2/22/2003 | 3/1/2005 | 8/23/2009 |
|---------------------------|----------|-----------|----------|-----------|
| TETRACHLOROETHENE         | ND       | NS        | ND       | ND        |
| TRICHLOROETHENE           | ND       | NS        | ND       | ND        |
| CIS-1,2-DICHLOROETHENE    | ND       | NS        | 0.2      | ND        |
| TRANS-1,2-DICHLOROETHENE  | ND       | NS        | ND       | ND        |
| VINYL CHLORIDE            | ND       | NS        | ND       | ND        |
| 1,1,2,2-TETRACHLOROETHANE | ND       | NS        | ND       | ND        |









| TMW-45                    | 8/9/2002 | 2/22/2003 | 3/1/2005 | 7/23/2009 |
|---------------------------|----------|-----------|----------|-----------|
| TETRACHLOROETHENE         | ND       | ND        | ND       | ND        |
| TRICHLOROETHENE           | ND       | ND        | ND       | ND        |
| CIS-1,2-DICHLOROETHENE    | ND       | ND        | ND       | ND        |
| TRANS-1,2-DICHLOROETHENE  | ND       | ND        | ND       | ND        |
| VINYL CHLORIDE            | ND       | ND        | ND       | ND        |
| 1,1,2,2-TETRACHLOROETHANE | ND       | ND        | ND       | ND        |

| TMW-4D                    | 8/9/2002 | 2/22/2003 | 2/28/2005 | 7/23/2009 |
|---------------------------|----------|-----------|-----------|-----------|
| TETRACHLOROETHENE         | ND       | ND        | ND        | ND        |
| TRICHLOROETHENE           | ND       | ND        | ND        | ND        |
| CIS-1,2-DICHLOROETHENE    | ND       | ND        | ND        | ND        |
| TRANS-1,2-DICHLOROETHENE  | ND       | ND        | ND        | ND        |
| VINYL CHLORIDE            | ND       | ND        | ND        | ND        |
| 1,1,2,2-TETRACHLOROETHANE | ND       | ND        | ND        | ND        |

| TMW-8D                    | 8/8/2002 | 2/22/2003 | 3/1/2005 | 7/24/2009 |
|---------------------------|----------|-----------|----------|-----------|
| TETRACHLOROETHENE         | ND       | NS        | NS       | ND        |
| TRICHLOROETHENE           | ND       | NS        | NS       | ND        |
| CIS-1,2-DICHLOROETHENE    | ND       | NS        | NS       | ND        |
| TRANS-1,2-DICHLOROETHENE  | ND       | NS        | NS       | ND        |
| VINYL CHLORIDE            | ND       | NS        | NS       | ND        |
| 1,1,2,2-TETRACHLOROETHANE | ND       | NS        | NS       | ND        |

| TMW-5D                    | 8/7/2002    | 2/22/2003 | 2/28/2005 | 7/24/2009 |
|---------------------------|-------------|-----------|-----------|-----------|
| TETRACHLOROETHENE         | ND          | 0.4       | 0.3       | ND        |
| TRICHLOROETHENE           | <b>11.4</b> | <b>19</b> | <b>20</b> | <b>10</b> |
| CIS-1,2-DICHLOROETHENE    | 3.3         | 3.8       | 6.9       | ND        |
| TRANS-1,2-DICHLOROETHENE  | ND          | ND        | 0.2       | ND        |
| VINYL CHLORIDE            | ND          | ND        | ND        | ND        |
| 1,1,2,2-TETRACHLOROETHANE | ND          | ND        | ND        | ND        |

LEGEND

 PROPERTY LINE (APPROX.)  
 70 EXISTING BUILDING AND BUILDING ID  
 RAILROAD TRACK  
 FENCELINE  
 GROUND WATER ELEVATION CONTOUR (FEET)  
 CONTOUR INTERVAL = 0.2 FOOT  
 DASHED WHERE INFERRED  
 INTERPRETED GROUND WATER FLOW DIRECTION  
 TMW-2D MONITORING WELL LOCATION AND ID  
 TMW-2D(A) MONITORING WELL LOCATION AND ID (ABANDONED)

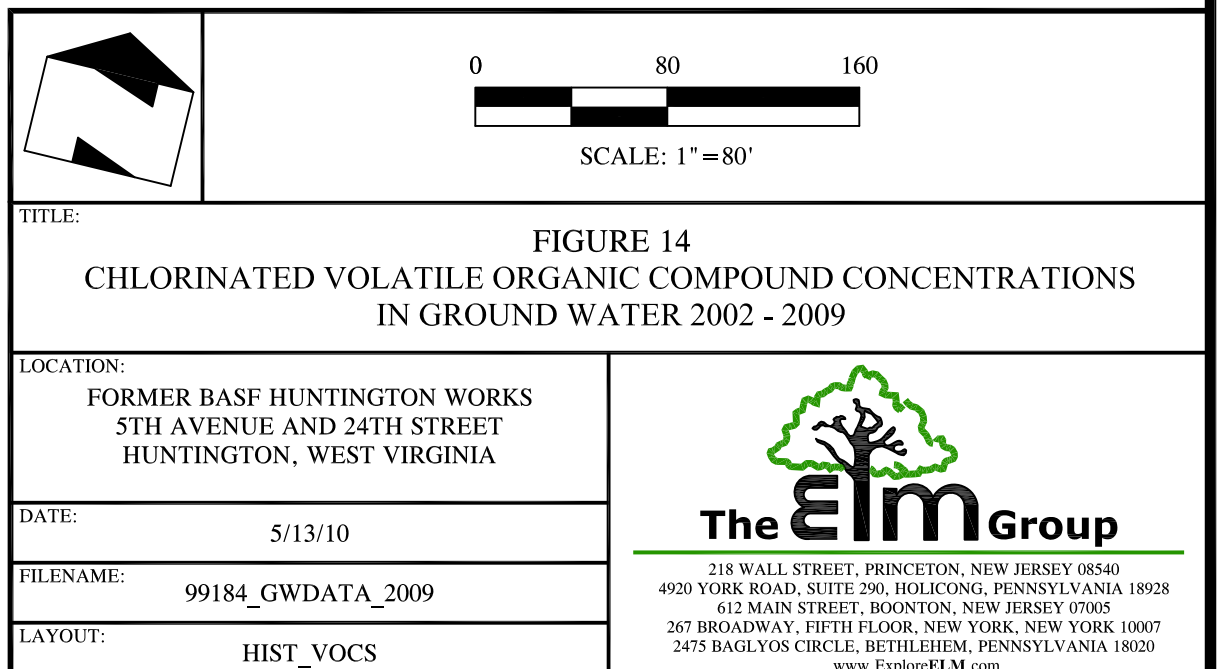
| VOCs                      | WVDEP GW |
|---------------------------|----------|
| TETRACHLOROETHENE         | 5        |
| TRICHLOROETHENE           | 5        |
| CIS-1,2-DICHLOROETHENE    | 70       |
| TRANS-1,2-DICHLOROETHENE  | 100      |
| VINYL CHLORIDE            | 2        |
| 1,1,2,2-TETRACHLOROETHANE | 0.055    |
| NOT DETECTED              | ND       |
| NOT SAMPLED               | NS       |

NOTES:

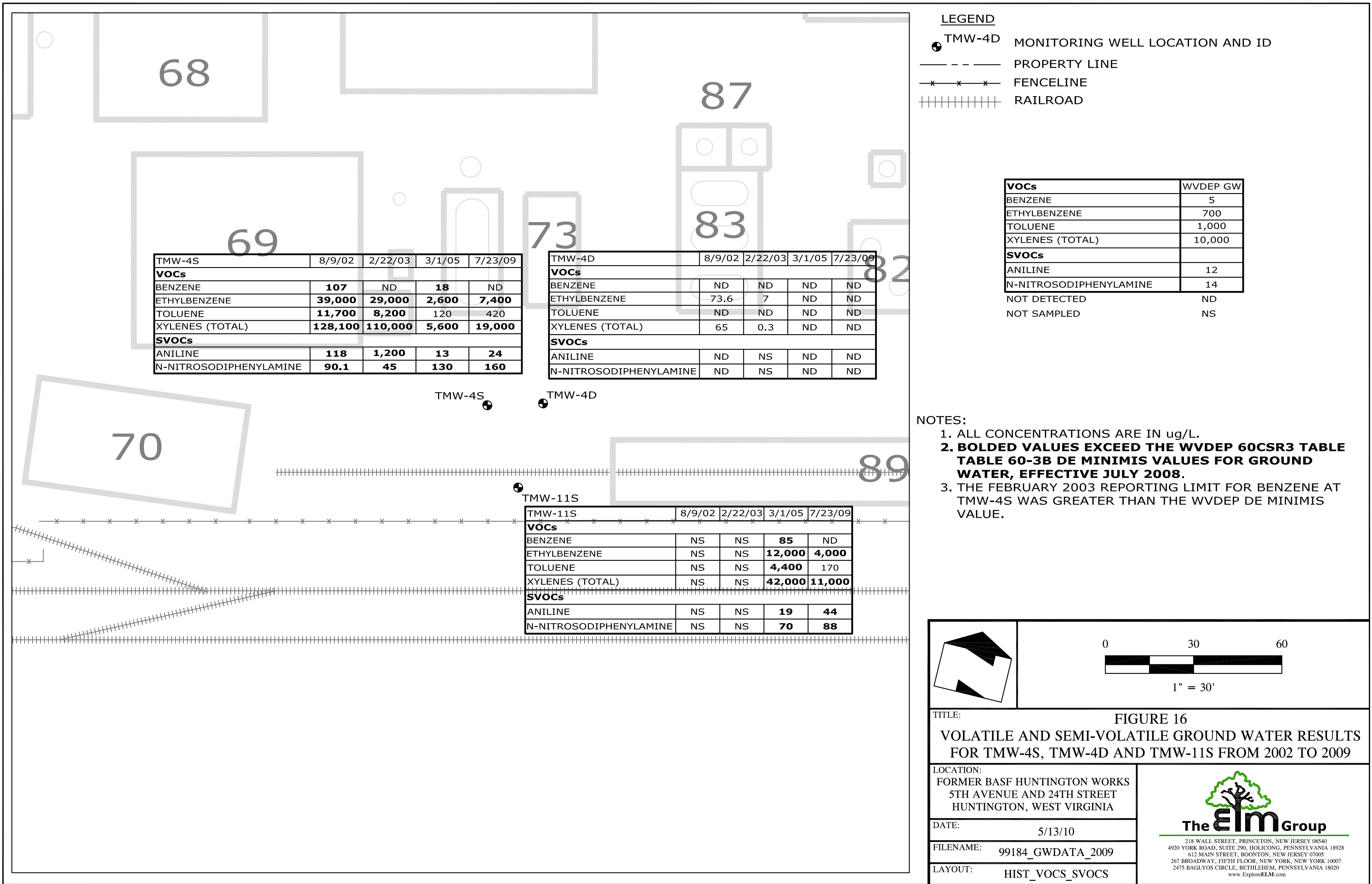
1. ALL CONCENTRATIONS ARE IN  $\mu\text{g/L}$ .
2. **BOLDED VALUES EXCEED THE WVDPE 60CSR3 TABLE 60-3B DE MINIMIS VALUES FOR GROUND WATER, EFFECTIVE JULY 2008.**
3. TMW-3D WAS ABANDONED IN FEBRUARY 2003.
4. DOWN-FLOW PURGING AND SAMPLING METHOD WAS USED FOR ALL SAMPLING EVENTS.
5. GROUND WATER POTENTIOMETRIC CONTOURS ARE FOR JULY 2009.

SOURCE:

1. "GENERAL PLANT MAP HUNTINGTON WORKS", DRAWING NUMBER 0110-HUN-W1-GEN-001, BY BASF CORPORATION, DATED FEBRUARY, 1996, REVISION 13
2. "HYDROLOGIC INVESTIGATION FOR LANDFILL CLOSURE 25TH STREET LANDFILL PLAN", PLAN NO. 8243, BY SMC MARTIN, INC., DATED JUNE, 1981







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**Table 1**  
**Initial Phase RFI Sample Summary**  
RCRA Facility Investigation Phase II  
Former BASF Huntington, Works Facility, Huntington, West Virginia

| Area of Concern                  | Sample ID               | Boring ID/<br>Well ID | Laboratory ID | Sample Date | Sample Matrix | Sample Depth (feet) | Analytical Params                            | WVSP NAD83 South Coordinates |           |
|----------------------------------|-------------------------|-----------------------|---------------|-------------|---------------|---------------------|----------------------------------------------|------------------------------|-----------|
|                                  |                         |                       |               |             |               |                     |                                              | Easting                      | Northing  |
| 25th Street Landfill (AOC 1)     | AOC1-01-1.0             | AOC1-01               | 0206778-01A   | 06/18/02    | Soil          | 1.0-1.5             | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1564250.89                   | 521649.98 |
|                                  | AOC1-02-1.0             | AOC1-02               | 0206778-02A   | 06/18/02    | Soil          | 1.0-1.5             | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1564374.81                   | 521670.13 |
|                                  | AOC1-03-1.0             | AOC1-03               | 0206778-03A   | 06/18/02    | Soil          | 1.0-1.5             | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1564535.04                   | 521701.35 |
|                                  | AOC1-04-1.0             | AOC1-04               | 0206778-04A   | 06/18/02    | Soil          | 1.0-1.5             | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1564696.59                   | 521748.23 |
|                                  | AOC1-05-1.0 (Duplicate) | AOC1-03               | 0206778-05A   | 06/18/02    | Soil          | 1.0-1.5             | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1564535.04                   | 521701.35 |
| On-Site Railroad Line (AOC 3)    | AOC3-01-1.5             | AOC3-01               | 0206781-01A   | 06/19/02    | Soil          | 1.5-2.0             | TCL BNA+20, TCL PCBs, TAL Metals             | 1563699.56                   | 521470.17 |
|                                  | AOC3-01-1.5             | AOC3-01               | 0206918-01A   | 06/26/02    | Soil          | 1.5-2.0             | TCL VOA+10                                   | 1563699.56                   | 521470.17 |
|                                  | AOC3-02-1.5             | AOC3-02               | 0206781-02A   | 06/19/02    | Soil          | 1.5-2.0             | TCL BNA+20, TCL PCBs, TAL Metals             | 1563657.12                   | 521461.63 |
|                                  | AOC3-02-1.5             | AOC3-02               | 0206918-02A   | 06/26/02    | Soil          | 1.5-2.0             | TCL VOA+10                                   | 1563657.12                   | 521461.63 |
|                                  | AOC3-03-2.0             | AOC3-03               | 0206781-03A   | 06/19/02    | Soil          | 2.0-2.5             | TCL BNA+20, TCL PCBs, TAL Metals             | 1563621.29                   | 521454.61 |
|                                  | AOC3-03-1.5             | AOC3-03               | 0206918-03A   | 06/26/02    | Soil          | 1.5-2.0             | TCL VOA+10                                   | 1563621.29                   | 521454.61 |
|                                  | AOC3-04-1.5             | AOC3-04               | 0206781-04A   | 06/19/02    | Soil          | 1.5-2.0             | TCL BNA+20, TCL PCBs, TAL Metals             | 1563555.98                   | 521442.00 |
|                                  | AOC3-04-1.5             | AOC3-04               | 0206918-04A   | 06/26/02    | Soil          | 1.5-2.0             | TCL VOA+10                                   | 1563555.98                   | 521442.00 |
|                                  | AOC3-05-1.5             | AOC3-05               | 0206781-05A   | 06/19/02    | Soil          | 1.5-2.0             | TCL BNA+20, TCL PCBs, TAL Metals             | 1563453.28                   | 521422.36 |
|                                  | AOC3-06-1.5             | AOC3-06               | 0206781-06A   | 06/19/02    | Soil          | 1.5-2.0             | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1563332.27                   | 521393.20 |
| Electrical Transformers (AOC 7)  | AOC3-07-1.0             | AOC3-07               | 0206781-07A   | 06/19/02    | Soil          | 1.0-1.5             | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1563224.32                   | 521358.45 |
|                                  | AOC3-08-2.0 (Duplicate) | AOC3-03               | 0206781-08A   | 06/19/02    | Soil          | 2.0-2.52            | TCL BNA+20, TCL PCBs, TAL Metals             | 1563621.29                   | 521454.61 |
|                                  | AOC3-08-1.5 (Duplicate) | AOC3-03               | 0206918-05A   | 06/26/02    | Soil          | 1.5-2.0             | TCL VOA+10                                   | 1563621.29                   | 521454.61 |
|                                  | AOC7-01-0.5             | AOC7-01               | 0206780-01A   | 06/19/02    | Soil          | 0.5-1.0             | TCL PCBs                                     | 1563524.56                   | 521456.67 |
|                                  | AOC7-02-0.5             | AOC7-02               | 0206780-02A   | 06/19/02    | Soil          | 0.5-1.0             | TCL PCBs                                     | 1563513.33                   | 521445.36 |
|                                  | AOC7-03-0.5             | AOC7-03               | 0206780-03A   | 06/20/02    | Soil          | 0.5-1.0             | TCL PCBs                                     | 1563118.58                   | 521668.23 |
|                                  | AOC7-04-0.5             | AOC7-04               | 0206780-04A   | 06/20/02    | Soil          | 0.5-1.0             | TCL PCBs                                     | 1563118.58                   | 521668.23 |
|                                  | AOC7-05-0.5             | AOC7-05               | 0206780-05A   | 06/20/02    | Soil          | 0.5-1.0             | TCL PCBs                                     | 1563112.33                   | 521659.79 |
|                                  | AOC7-06-0.5             | AOC7-06               | 0206780-06A   | 06/20/02    | Soil          | 0.5-1.0             | TCL PCBs                                     | 1563109.63                   | 521673.24 |
|                                  | AOC7-07-0.5             | AOC7-07               | 0206780-07A   | 06/20/02    | Soil          | 0.5-1.0             | TCL PCBs                                     | 1563078.74                   | 521690.56 |
| Former Coal Storage Area (AOC 8) | AOC7-08-0.5             | AOC7-08               | 0206780-08A   | 06/20/02    | Soil          | 0.5-1.0             | TCL PCBs                                     | 1563067.42                   | 521699.04 |
|                                  | AOC7-09-0.5             | AOC7-09               | 0206780-09A   | 06/20/02    | Soil          | 0.5-1.0             | TCL PCBs                                     | 1563058.67                   | 521686.65 |
|                                  | AOC7-10-0.5 (Duplicate) | AOC7-05               | 0206780-10A   | 06/20/02    | Soil          | 0.5-1.0             | TCL PCBs                                     | 1563118.58                   | 521668.23 |
|                                  | AOC8-01-0.5             | AOC8-01               | 0206782-01A   | 06/18/02    | Soil          | 0.5-1.0             | TCL BNA+20, TAL Metals                       | 1563071.67                   | 521677.89 |
|                                  | AOC8-01-2.0             | AOC8-01               | 0206782-02A   | 06/18/02    | Soil          | 2.0-2.5             | TCL BNA+20, TAL Metals                       | 1563071.67                   | 521677.89 |
| Groundwater (AOC-9)              | AOC8-02-1.0             | AOC8-02               | 0206782-03A   | 06/18/02    | Soil          | 1.0-1.5             | TCL BNA+20, TAL Metals                       | 1562571.31                   | 521787.42 |
|                                  | AOC8-02-2.0             | AOC8-02               | 0206782-04A   | 06/18/02    | Soil          | 2.0-2.5             | TCL BNA+20, TAL Metals                       | 1562571.31                   | 521787.42 |
|                                  | AOC8-03-0.5 (Duplicate) | AOC8-01               | 0206782-05A   | 06/18/02    | Soil          | 0.5-1.0             | TCL BNA+20, TAL Metals                       | 1563071.67                   | 521677.89 |
|                                  | TMW-1D                  | TMW-1D                | 0208297-01A   | 08/07/02    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1563081.50                   | 522174.79 |
|                                  | TMW-2D                  | TMW-2D                | 0208387-04A   | 08/08/02    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1563230.21                   | 520968.61 |
|                                  | TMW-3D                  | TMW-3D                | 0208387-03A   | 08/08/02    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1563550.52                   | 521784.12 |
|                                  | TMW-4S                  | TMW-4S                | 0208401-01A   | 08/09/02    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1563407.28                   | 521097.43 |
|                                  | TMW-4D                  | TMW-4D                | 0208401-02A   | 08/09/02    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1563407.28                   | 521097.43 |
|                                  | TMW-5D                  | TMW-5D                | 0208297-03A   | 08/07/02    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1564769.50                   | 521703.92 |
|                                  | TMW-6D                  | TMW-6D                | 0208287-01A   | 08/08/02    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1565358.58                   | 521189.13 |
|                                  | TMW-7D                  | TMW-7D                | 0208297-02A   | 08/07/02    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1564844.64                   | 521935.47 |
|                                  | TMW-8D                  | TMW-8D                | 0208387-02A   | 08/08/02    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1564251.54                   | 521661.22 |
|                                  | TMW-9D                  | TMW-9D                | 0208261-01A   | 08/06/02    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1562555.12                   | 522101.90 |



**Table 1**  
**Initial Phase RFI Sample Summary**  
 RCRA Facility Investigation Phase II  
 Former BASF Huntington, Works Facility, Huntington, West Virginia

| Area of Concern        | Sample ID           | Boring ID/<br>Well ID | Laboratory ID | Sample Date | Sample Matrix | Sample Depth (feet) | Analytical Parameters                        | WVSP NAD83 South Coordinates |           |
|------------------------|---------------------|-----------------------|---------------|-------------|---------------|---------------------|----------------------------------------------|------------------------------|-----------|
|                        |                     |                       |               |             |               |                     |                                              | Easting                      | Northing  |
| Groundwater<br>(AOC-9) | TMW-10D (Duplicate) | TMW-4S                | 0208401-03A   | 08/09/02    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | 1563407.28                   | 521097.43 |
|                        | TMW-1D              | TMW-1D                | 410431        | 02/23/03    | Groundwater   | NA                  | TCL VOA+10, Anions, Dissolved Gases          | 1563081.50                   | 522174.79 |
|                        | TMW-4S              | TMW-4S                | 410423        | 02/22/03    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20                       | 1563407.28                   | 521097.43 |
|                        | TMW-4D              | TMW-4D                | 410422        | 02/22/03    | Groundwater   | NA                  | TCL VOA+10,                                  | 1563407.28                   | 521097.43 |
|                        | TMW-5D              | TMW-5D                | 410421        | 02/22/03    | Groundwater   | NA                  | TCL VOA+10,                                  | 1564769.50                   | 521703.92 |
|                        | TMW-7D              | TMW-7D                | 410326        | 02/21/03    | Groundwater   | NA                  | TCL VOA+10,                                  | 1564844.64                   | 521935.47 |
|                        | WP-1                | WP-1                  | 410559        | 02/24/03    | Groundwater   | NA                  | TCL VOA+10, Anions, Dissolved Gases          | 1562922.76                   | 522149.94 |
|                        | WP-2                | WP-2                  | 410558        | 02/24/03    | Groundwater   | NA                  | TCL VOA+10, Anions, Dissolved Gases          | 1563112.09                   | 522191.30 |
|                        | WP-3                | WP-3                  | 410557        | 02/24/03    | Groundwater   | NA                  | TCL VOA+10, Anions, Dissolved Gases          | 1563237.95                   | 522214.60 |
|                        | WP-4                | WP-4                  | 410434        | 02/23/03    | Groundwater   | NA                  | TCL VOA+10, Anions, Dissolved Gases          | 1563068.81                   | 522071.85 |
|                        | WP-5                | WP-5                  | 410432        | 02/23/03    | Groundwater   | NA                  | TCL VOA+10, Anions, Dissolved Gases          | 1563026.08                   | 522002.49 |
|                        | WP-6                | WP-6                  | 410433        | 02/23/03    | Groundwater   | NA                  | TCL VOA+10, Anions, Dissolved Gases          | 1563210.51                   | 522037.22 |
|                        | WP-7                | WP-7                  | 410551        | 02/25/03    | Groundwater   | NA                  | TCL VOA+10, Anions, Dissolved Gases          | 1563092.47                   | 521978.06 |
|                        | WP-8                | WP-8                  | 410552        | 02/25/03    | Groundwater   | NA                  | TCL VOA+10, Anions, Dissolved Gases          | 1563069.03                   | 521817.29 |
|                        | WP-9                | WP-9                  | 410553        | 02/25/03    | Groundwater   | NA                  | TCL VOA+10, Anions, Dissolved Gases          | 1563311.10                   | 521838.40 |
|                        | TMS-1D              | TMW-1D                | 611722        | 02/28/05    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20                       | 1563081.50                   | 522174.79 |
|                        | TMW-2D              | TMW-2D                | 611723        | 03/01/05    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20                       | 1563230.21                   | 520968.61 |
|                        | TMW-4S              | TMW-4S                | 611724        | 03/01/05    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20, TAL Metals           | 1563407.28                   | 521097.43 |
|                        | TMW-4D              | TMW-4D                | 611725        | 02/28/05    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20                       | 1563407.28                   | 521097.43 |
|                        | TMW-5D              | TMW-5D                | 611726        | 02/28/05    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20                       | 1564769.50                   | 521703.92 |
|                        | TMW-7D              | TMW-7D                | 611727        | 02/28/05    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20                       | 1564844.64                   | 521935.47 |
|                        | TMW-11S             | TMW-11S               | 611728        | 03/01/05    | Groundwater   | NA                  | TCL VOA+10, TCL BNA+20, TAL Metals           | 1562555.12                   | 522101.90 |
|                        | TMS-1D              | TMW-1D                | 616885        | 03/17/05    | Groundwater   | NA                  | TCL BNA+20                                   | 1563081.50                   | 522174.79 |
|                        | TMW-5D              | TMW-5D                | 616883        | 03/17/05    | Groundwater   | NA                  | TCL BNA+20                                   | 1564769.50                   | 521703.92 |
|                        | TMW-7D              | TMW-7D                | 616884        | 03/17/05    | Groundwater   | NA                  | TCL BNA+20                                   | 1564844.64                   | 521935.47 |
|                        | TMW-11S             | TMW-11S               | 616885        | 03/17/05    | Groundwater   | NA                  | TCL BNA+20                                   | 1562555.12                   | 522101.90 |
| QA/QC                  | FBLANK-061802       | NA                    | 0206778-06A   | 06/18/02    | Blank         | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | NA                           | NA        |
|                        | FBLANK-061902       | NA                    | 0206781-10A   | 06/19/02    | Blank         | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | NA                           | NA        |
|                        | FBLANK-062002       | NA                    | 0206780-11A   | 06/20/02    | Blank         | NA                  | TCL PCBs                                     | NA                           | NA        |
|                        | FBLANK-080602       | NA                    | 0208261-03A   | 08/06/02    | Blank         | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | NA                           | NA        |
|                        | FBLANK-080702       | NA                    | 0208297-04A   | 08/07/02    | Blank         | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | NA                           | NA        |
|                        | FBLANK-080802       | NA                    | 0208387-06A   | 08/08/02    | Blank         | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | NA                           | NA        |
|                        | FBLANK-080902       | NA                    | 0208401-04A   | 08/09/02    | Blank         | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | NA                           | NA        |
|                        | EBLANK-080602       | NA                    | 0208261-04A   | 08/06/02    | Blank         | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | NA                           | NA        |
|                        | EBLANK-080702       | NA                    | 0208297-05A   | 08/07/02    | Blank         | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | NA                           | NA        |
|                        | EBLANK-080802       | NA                    | 0208387-05A   | 08/08/02    | Blank         | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | NA                           | NA        |
|                        | EBLANK-080902       | NA                    | 0208401-05A   | 08/09/02    | Blank         | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | NA                           | NA        |
|                        | Field Blank         | NA                    | 611729        | 03/01/05    | Blank         | NA                  | TCL VOA+10, TCL BNA+20, TAL Metals           | NA                           | NA        |
|                        | Field Blank         | NA                    | 616889        | 03/17/09    | Blank         | NA                  | TCL BNA+20                                   | NA                           | NA        |
|                        | TBLANK-061802       | NA                    | 0206778-07A   | 06/18/02    | Blank         | NA                  | TCL VOA+10                                   | NA                           | NA        |
|                        | TBLANK-061902       | NA                    | 0206781-11A   | 06/19/02    | Blank         | NA                  | TCL VOA+10                                   | NA                           | NA        |
|                        | TBLANK-080602       | NA                    | 0208261-05A   | 08/06/02    | Blank         | NA                  | TCL VOA+10                                   | NA                           | NA        |
|                        | TBLANK-080702       | NA                    | 0208297-06A   | 08/07/02    | Blank         | NA                  | TCL VOA+10                                   | NA                           | NA        |

**Table 1**  
**Initial Phase RFI Sample Summary**  
 RCRA Facility Investigation Phase II  
 Former BASF Huntington, Works Facility, Huntington, West Virginia

| Area of Concern | Sample ID     | Boring ID/<br>Well ID | Laboratory ID | Sample Date | Sample Matrix | Sample Depth (feet) | Analytical Parameters                        | WVSP NAD83 South Coordinates |          |
|-----------------|---------------|-----------------------|---------------|-------------|---------------|---------------------|----------------------------------------------|------------------------------|----------|
|                 |               |                       |               |             |               |                     |                                              | Easting                      | Northing |
| QA/QC           | TBLANK-080802 | NA                    | 0208387-07A   | 08/08/02    | Blank         | NA                  | TCL VOA+10                                   | NA                           | NA       |
|                 | TBLANK-080902 | NA                    | 0208400-06A   | 08/09/02    | Blank         | NA                  | TCL VOA+10                                   | NA                           | NA       |
|                 | Trip Blank    | NA                    | 611731        | 03/01/05    | Blank         | NA                  | TCL VOA+10                                   | NA                           | NA       |
|                 | AOC3-09       | NA                    | 0206781-09A   | 06/19/02    | PE            | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs, TAL Metals | NA                           | NA       |
|                 | TMW-11D       | NA                    | 0208261-02A   | 08/06/02    | PE            | NA                  | TCL VOA+10, TCL BNA+20, TCL PCBs             | NA                           | NA       |
|                 | WP-10         | NA                    | 410556        | 02/25/03    | PE            | NA                  | TCL VOA+10                                   | NA                           | NA       |

- Notes:
1. TCL - Target Compound List
  2. TAL - Target Analyte List
  3. PE - Performance Evaluation Sample
  4. NA - Not Applicable
  5. TCL SVOC analysis includes benzidine, 1,2-diphenyldrazine, and 3,3'-dimethoxybenzidine
  6. Dissolved Gases analysis includes methane, ethane and ethene
  7. Anions analysis includes chloride, nitrate and sulfate
  8. Wells TMW-1D, TMW-5D, TMW-7D, TMW-11S and Duplicate were resampled on 3/17/05 for TCL BNA+20 due broken samples during shipping to lab from 2/28/05 sampling event

Table 2  
Ground Water Volatile Organic Results 2002-2005  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works Facility, Huntington, West Virginia

| Sample ID<br>Laboratory ID<br>Sample Media<br>Sample Date<br>Unit of Measure | EPA MCL/<br>WVDEP<br>46CSR12<br>ug/L | WVDEP<br>Table<br>60-3B<br>ug/L | TMW-1D<br>0208297-01A<br>Aqueous<br>08/07/02<br>ug/L | TMW-1D<br>410431<br>Aqueous<br>02/23/03<br>ug/L | TMW-1D<br>611722<br>Aqueous<br>02/28/05<br>ug/L | TMW-2D<br>0208387-04A<br>Aqueous<br>08/08/02<br>ug/L | TMW-2D<br>611723<br>Aqueous<br>03/01/05<br>ug/L | TMW-3D<br>0208387-03A<br>Aqueous<br>08/08/02<br>ug/L | TMW-4S<br>0208401-01A<br>Aqueous<br>08/09/02<br>ug/L | TMW-4S<br>410423<br>Aqueous<br>02/22/03<br>ug/L | TMW-4S<br>611724<br>Aqueous<br>03/01/05<br>ug/L | TMW-4D<br>0208401-02A<br>Aqueous<br>08/09/02<br>ug/L | TMW-4D<br>410423<br>Aqueous<br>02/22/03<br>ug/L | TMW-4D<br>611725<br>Aqueous<br>02/28/05<br>ug/L | TMW-5D<br>0208297-03A<br>Aqueous<br>08/07/02<br>ug/L | TMW-5D<br>410421<br>Aqueous<br>02/22/03<br>ug/L | TMW-5D<br>611726<br>Aqueous<br>02/28/05<br>ug/L | TMW-6D<br>0208387-01A<br>Aqueous<br>08/08/02<br>ug/L |
|------------------------------------------------------------------------------|--------------------------------------|---------------------------------|------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------|-------------------------------------------------|------------------------------------------------------|------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------|
| Volatile Organics                                                            |                                      |                                 |                                                      |                                                 |                                                 |                                                      |                                                 |                                                      |                                                      |                                                 |                                                 |                                                      |                                                 |                                                 |                                                      |                                                 |                                                 |                                                      |
| Acetone                                                                      | NS                                   | 2.4                             | 22.4 B                                               | 5.0 U                                           | 5 U                                             | 20.0 U                                               | 5 U                                             | 20.0 U                                               | 58.0 B                                               | 2,500 U                                         | 100 U                                           | 20.0 U                                               | 5.0 U                                           | 5 U                                             | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 20.0 U                                               |
| Benzene                                                                      | 5                                    | 5                               | 1.0 U                                                | 1.0 U                                           | 1 U                                             | 1.0 U                                                | 1 U                                             | 1.0 U                                                | 107                                                  | 500 U                                           | 18 J                                            | 1.0 U                                                | 1.0 U                                           | 1 U                                             | 1.0 U                                                | 1.0 U                                           | 1 U                                             | 1.0 U                                                |
| Bromochloromethane                                                           | NS                                   | 6.1                             | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                |
| Bromodichloromethane                                                         | NS                                   | 0.18                            | 1.0 U                                                | 1.0 U                                           | 1 U                                             | 1.0 U                                                | 1 U                                             | 1.0 U                                                | 1.0 U                                                | 500 U                                           | 20 U                                            | 1.0 U                                                | 1.0 U                                           | 1 U                                             | 1.0 U                                                | 1.0 U                                           | 1 U                                             | 1.0 U                                                |
| Bromoform                                                                    | NS                                   | 8.4                             | 1.0 U                                                | 4.0 U                                           | 4 U                                             | 1.0 U                                                | 4 U                                             | 1.0 U                                                | 1.0 U                                                | 2,000 U                                         | 80 U                                            | 1.0 U                                                | 4.0 U                                           | 4 U                                             | 1.0 U                                                | 4.0 U                                           | 4 U                                             | 1.0 U                                                |
| Bromomethane                                                                 | NS                                   | 8.7                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5 U                                             | 1.0 U                                                | 1.0 U                                                | 2,500 U                                         | 100 U                                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                |
| 2-Butanone                                                                   | NS                                   | NS                              | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 10.0 U                                               | 5 U                                             | 10.0 U                                               | 10.0 U                                               | 2,500 U                                         | 100 U                                           | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 10.0 U                                               |
| Carbon Disulfide                                                             | NS                                   | 1,000                           | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 10.0 U                                               | 5 U                                             | 10.0 U                                               | 10.0 U                                               | 2,500 U                                         | 100 U                                           | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 10.0 U                                               |
| Carbon Tetrachloride                                                         | 5                                    | 5                               | 1.0 U                                                | 2.0 U                                           | 2 U                                             | 1.0 U                                                | 2 U                                             | 1.0 U                                                | 1.0 U                                                | 1,000 U                                         | 40 U                                            | 1.0 U                                                | 2.0 U                                           | 2 U                                             | 1.0 U                                                | 2.0 U                                           | 2 U                                             | 1.0 U                                                |
| Chlorobenzene                                                                | 100                                  | 110                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5 U                                             | 1.0 U                                                | 1.0 U                                                | 2,500 U                                         | 100 U                                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                |
| Chloroethane                                                                 | NS                                   | 3.8                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5 U                                             | 1.0 U                                                | 1.0 U                                                | 2,500 U                                         | 100 U                                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                |
| Chloroform                                                                   | NS                                   | 0.16                            | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5 U                                             | 1.0 U                                                | 1.0 U                                                | 2,500 U                                         | 100 U                                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                |
| Chloromethane                                                                | NS                                   | 1.5                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5 U                                             | 1.0 U                                                | 1.0 U                                                | 2,500 U                                         | 100 U                                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                |
| Dibromochloromethane                                                         | NS                                   | 0.13                            | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5 U                                             | 1.0 U                                                | 1.0 U                                                | 2,500 U                                         | 100 U                                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                |
| 1,2-Dibromo-3-chloropropane                                                  | 0.0002                               | 0.2                             | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                |
| 1,2-Dibromoethane                                                            | NS                                   | 0.05                            | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                |
| 1,2-Dichlorobenzene                                                          | NS                                   | 600                             | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                |
| 1,3-Dichlorobenzene                                                          | NS                                   | 600                             | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                |
| 1,4-Dichlorobenzene                                                          | NS                                   | 70                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                |
| Dichlorodifluoromethane                                                      | NS                                   | 390                             | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                |
| 1,1-Dichloroethane                                                           | NS                                   | 810                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5 U                                             | 1.0 U                                                | 1.0 U                                                | 2,500 U                                         | 100 U                                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                |
| 1,2-Dichloroethane                                                           | 5                                    | 5                               | 1.0 U                                                | 2.0 U                                           | 2 U                                             | 1.0 U                                                | 2 U                                             | 1.0 U                                                | 1.0 U                                                | 1,000 U                                         | 40 U                                            | 1.0 U                                                | 2.0 U                                           | 2 U                                             | 1.0 U                                                | 2.0 U                                           | 2 U                                             | 1.0 U                                                |
| 1,1-Dichloroethene                                                           | 7                                    | 7                               | 1.0 U                                                | 0.6 J                                           | 0.4 J                                           | 1.0 U                                                | 2 U                                             | 1.0 U                                                | 1.0 U                                                | 1,000 U                                         | 40 U                                            | 1.0 U                                                | 2.0 U                                           | 2 U                                             | 1.0 U                                                | 2.0 U                                           | 0.4 J                                           | 1.0 U                                                |
| cis-1,2-Dichloroethene                                                       | 70                                   | 70                              | 23.2                                                 | 32                                              | 22                                              | 1.0 U                                                | 0.2 J                                           | 1.0 U                                                | 1.0 U                                                | 2,500 U                                         | 100 U                                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 3.3                                                  | 3.8 J                                           | 6.9                                             | 1.0 U                                                |
| trans-1,2-Dichloroethene                                                     | 100                                  | 120                             | 79.0                                                 | 60                                              | 34                                              | 1.0 U                                                | 5 U                                             | 1.0 U                                                | 1.0 U                                                | 2,500 U                                         | 100 U                                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5.0 U                                           | 0.2 J                                           | 1.0 U                                                |
| 1,2-Dichloropropane                                                          | 7                                    | 5                               | 1.0 U                                                | 1.0 U                                           | 1 U                                             | 1.0 U                                                | 1 U                                             | 1.0 U                                                | 1.0 U                                                | 500 U                                           | 20 U                                            | 1.0 U                                                | 1.0 U                                           | 1 U                                             | 1.0 U                                                | 1.0 U                                           | 1 U                                             | 1.0 U                                                |
| cis-1,3-Dichloropropene                                                      | NS                                   | 0.39                            | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5 U                                             | 1.0 U                                                | 1.0 U                                                | 2,500 U                                         | 100 U                                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                |
| trans-1,3-Dichloropropene                                                    | NS                                   | 0.39                            | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5 U                                             | 1.0 U                                                | 1.0 U                                                | 2,500 U                                         | 100 U                                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                |
| Ethylbenzene                                                                 | 700                                  | 1,300                           | 1.0 U                                                | 4.0 U                                           | 4 U                                             | 1.0 U                                                | 4 U                                             | 1.0 U                                                | 39,000                                               | 29,000                                          | 2,600                                           | 73.6                                                 | 7.0                                             | 4 U                                             | 1.0 U                                                | 4.0 U                                           | 4 U                                             | 1.0 U                                                |
| 2-Hexanone                                                                   | NS                                   | NS                              | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 10.0 U                                               | 5 U                                             | 10.0 U                                               | 10.0 U                                               | 2,500 U                                         | 100 U                                           | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 10.0 U                                               |
| Isopropylbenzene                                                             | NS                                   | NS                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | 1.0 U                                                | 187.0                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                |
| Methylene Chloride                                                           | NS                                   | 5                               | 1.0 U                                                | 3.0 U                                           | 3 U                                             | 1.0 U                                                | 3 U                                             | 1.0 U                                                | 1.0 U                                                | 1,500 U                                         | 60 U                                            | 1.0 U                                                | 3.0 U                                           | 3 U                                             | 1.0 U                                                | 3.0 U                                           | 3 U                                             | 1.0 U                                                |
| 4-Methyl-2-pentanone                                                         | NS                                   | 160                             | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 10.0 U                                               | 5 U                                             | 10.0 U                                               | 10.0 U                                               | 2,500 U                                         | 100 U                                           | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 10.0 U                                               |
| Methyl tert-butyl ether                                                      | NS                                   | NS                              | 10.0 U                                               | NT                                              | NT                                              | 10.0 U                                               | NT                                              | 10.0 U                                               | 10.0 U                                               | NT                                              | NT                                              | 10.0 U                                               | NT                                              | NT                                              | 10.0 U                                               | NT                                              | NT                                              | 10.0 U                                               |
| Styrene                                                                      | 100                                  | 1,600                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5 U                                             | 1.0 U                                                | 1.0 U                                                | 2,500 U                                         | 100 U                                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                |
| 1,1,2,2-Tetrachloroethane                                                    | NS                                   | 0.055                           | 17.8                                                 | 12                                              | 5.2                                             | 1.0 U                                                | 1 U                                             | 1.0 U                                                | 1.0 U                                                | 500 U                                           | 20 U                                            | 1.0 U                                                | 1.0 U                                           | 1 U                                             | 1.0 U                                                | 1.0 U                                           | 1 U                                             | 1.0 U                                                |
| Tetrachloroethene                                                            | 5                                    | 5                               | 1.0 U                                                | 1.0 U                                           | 1 U                                             | 1.0 U                                                | 1 U                                             | 1.0 U                                                | 1.0 U                                                | 500 U                                           | 20 U                                            | 1.0 U                                                | 1.0 U                                           | 1 U                                             | 1.0 U                                                | 0.4 J                                           | 0.3 J                                           | 1.0 U                                                |
| Toluene                                                                      | 1,000                                | 1,000                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5 U                                             | 1.0 U                                                | 11,700                                               | 8,200                                           | 120                                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                |
| 1,2,3-Trichlorobenzene                                                       | NS                                   | NS                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                |
| 1,2,4-Trichlorobenzene                                                       | 0.07                                 | 190                             | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                |
| 1,1,1-Trichloroethane                                                        | 200                                  | 540                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5 U                                             | 1.0 U                                                | 1.0 U                                                | 2,500 U                                         | 100 U                                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                |
| 1,1,2-Trichloroethane                                                        | 5                                    | 5                               | 1.0                                                  | 2.3 J                                           | 1.4 J                                           | 1.0 U                                                | 3 U                                             | 1.0 U                                                | 1.0 U                                                | 1,500 U                                         | 60 U                                            | 1.0 U                                                | 3.0 U                                           | 3 U                                             | 1.0 U                                                | 3.0 U                                           | 3 U                                             | 1.0 U                                                |
| Trichloroethene                                                              | 5                                    | 5                               | 141                                                  | 100                                             | 67                                              | 1.0 U                                                | 0.9 J                                           | 1.0 U                                                | 1.0 U                                                | 500 U                                           | 20 U                                            | 1.0 U                                                | 1.0 U                                           | 1 U                                             | 11.4                                                 | 19                                              | 20                                              | 1.0 U                                                |
| Trichlorofluoromethane                                                       | NS                                   | 1,300                           | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                |
| 1,1,2-Trichloro-1,2,-trifluoroethane                                         | NS                                   | 59,000                          | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                |
| Vinyl Chloride                                                               | 2                                    | 2                               | 2.8                                                  | 2.2 J                                           | 3.6 J                                           | 1.0 U                                                | 5 U                                             | 1.0 U                                                | 1.0 U                                                | 2,500 U                                         | 100 U                                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                |
| Xylene (Total)                                                               | 10,000                               | 1,000                           | 2.0 U                                                | 5.0 U                                           | 5 U                                             | 2.0 U                                                | 5 U                                             | 2.0 U                                                | 128,100                                              | 110,000                                         | 5,600                                           | 65.0                                                 | 0.3 J                                           | 5 U                                             | 2.0 U                                                | 5.0 U                                           | 5 U                                             | 2.0 U                                                |

**Bold** value indicates concentration exceeds EPA MCL  
*Italicized* values indicates method detection limit exceeds EPA MCL  
U = Not Detected Above Level Indicated  
B = Compound Detected in Lab Blank  
NS = No Standard

Table 2  
Ground Water Volatile Organic Results 2002-2005  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works Facility, Huntington, West Virginia

| Sample ID<br>Laboratory ID<br>Sample Media<br>Sample Date<br>Unit of Measure | EPA MCL/<br>WVDEP<br>46CSR12<br>ug/L | WVDEP<br>Table<br>60-3B<br>ug/L | TMW-7D<br>0208297-02A<br>Aqueous<br>08/07/02<br>ug/L | TMW-7D<br>410326<br>Aqueous<br>02/21/03<br>ug/L | TMW-7D<br>611727<br>Aqueous<br>02/28/05<br>ug/L | TMW-8D<br>0208387-02A<br>Aqueous<br>08/08/02<br>ug/L | TMW-9D<br>0208261-01A<br>Aqueous<br>08/06/02<br>ug/L | TMW-11S<br>611728<br>Aqueous<br>03/01/05<br>ug/L | WP-1<br>410559<br>Aqueous<br>02/24/03<br>ug/L | WP-2<br>410558<br>Aqueous<br>02/24/03<br>ug/L | WP-3<br>410557<br>Aqueous<br>02/24/03<br>ug/L | WP-4<br>410434<br>Aqueous<br>02/23/03<br>ug/L | WP-5<br>410432<br>Aqueous<br>02/23/03<br>ug/L | WP-6<br>410433<br>Aqueous<br>02/23/03<br>ug/L | WP-7<br>410551<br>Aqueous<br>02/25/03<br>ug/L | WP-8<br>410552<br>Aqueous<br>02/25/03<br>ug/L | WP-9<br>410553<br>Aqueous<br>02/25/03<br>ug/L |
|------------------------------------------------------------------------------|--------------------------------------|---------------------------------|------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------|------------------------------------------------------|--------------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| Volatile Organics                                                            |                                      |                                 |                                                      |                                                 |                                                 |                                                      |                                                      |                                                  |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |                                               |
| Acetone                                                                      | NS                                   | 2.4                             | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 20.0 U                                               | 20.0 U                                               | 500 U                                            | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 15                                            | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| Benzene                                                                      | 5                                    | 5                               | 1.0 U                                                | 1.0 U                                           | 1 U                                             | 1.0 U                                                | 1.0 U                                                | <b>85 J</b>                                      | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         |
| Bromochloromethane                                                           | NS                                   | 6.1                             | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                               | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            |
| Bromodichloromethane                                                         | NS                                   | 0.18                            | 1.0 U                                                | 1.0 U                                           | <i>1 U</i>                                      | 1.0 U                                                | 1.0 U                                                | <i>100 U</i>                                     | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         |
| Bromoform                                                                    | NS                                   | 8.4                             | 1.0 U                                                | 4.0 U                                           | 4 U                                             | 1.0 U                                                | 1.0 U                                                | <i>400 U</i>                                     | 4.0 U                                         | 4.0 U                                         | 4.0 U                                         | 4.0 U                                         | 4.0 U                                         | 4.0 U                                         | 4.0 U                                         | 4.0 U                                         | 4.0 U                                         |
| Bromomethane                                                                 | NS                                   | 8.7                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 1.0 U                                                | <i>500 U</i>                                     | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| 2-Butanone                                                                   | NS                                   | NS                              | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 10.0 U                                               | 10.0 U                                               | 500 U                                            | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| Carbon Disulfide                                                             | NS                                   | 1,000                           | 10.0 U                                               | 0.7 J                                           | 5 U                                             | 10.0 U                                               | 10.0 U                                               | 500 U                                            | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| Carbon Tetrachloride                                                         | 5                                    | 5                               | 1.0 U                                                | 2.0 U                                           | 2 U                                             | 1.0 U                                                | 1.0 U                                                | <i>200 U</i>                                     | 2.0 U                                         | 2.0 U                                         | 2.0 U                                         | 2.0 U                                         | 2.0 U                                         | 2.0 U                                         | 2.0 U                                         | 2.0 U                                         | 2.0 U                                         |
| Chlorobenzene                                                                | 100                                  | 110                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 1.0 U                                                | <i>500 U</i>                                     | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 0.6 J                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| Chloroethane                                                                 | NS                                   | 3.8                             | 1.0 U                                                | 5.0 U                                           | <i>5 U</i>                                      | 1.0 U                                                | 1.0 U                                                | <i>500 U</i>                                     | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| Chloroform                                                                   | NS                                   | 0.16                            | 1.0 U                                                | 5.0 U                                           | <i>5 U</i>                                      | 1.0 U                                                | 1.0 U                                                | <i>500 U</i>                                     | 0.4 J                                         | 0.2 J                                         | 5.0 U                                         | 0.5 J                                         | 0.4 J                                         | 1.2 J                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| Chloromethane                                                                | NS                                   | 1.5                             | 1.0 U                                                | 5.0 U                                           | <i>5 U</i>                                      | 1.0 U                                                | 1.0 U                                                | <i>500 U</i>                                     | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| Dibromochloromethane                                                         | NS                                   | 0.13                            | 1.0 U                                                | 5.0 U                                           | <i>5 U</i>                                      | 1.0 U                                                | 1.0 U                                                | <i>500 U</i>                                     | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| 1,2-Dibromo-3-chloropropane                                                  | 0.0002                               | 0.2                             | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                               | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            |
| 1,2-Dibromoethane                                                            | NS                                   | 0.05                            | <i>1.0 U</i>                                         | NT                                              | NT                                              | <i>1.0 U</i>                                         | <i>1.0 U</i>                                         | NT                                               | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            |
| 1,2-Dichlorobenzene                                                          | NS                                   | 600                             | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                               | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            |
| 1,3-Dichlorobenzene                                                          | NS                                   | 600                             | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                               | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            |
| 1,4-Dichlorobenzene                                                          | NS                                   | 70                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                               | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            |
| Dichlorodifluoromethane                                                      | NS                                   | 390                             | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                               | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            |
| 1,1-Dichloroethane                                                           | NS                                   | 810                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 1.0 U                                                | 500 U                                            | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| 1,2-Dichloroethane                                                           | 5                                    | 5                               | 1.0 U                                                | 2.0 U                                           | 2 U                                             | 1.0 U                                                | 1.0 U                                                | <i>200 U</i>                                     | 2.0 U                                         | 2.0 U                                         | 2.0 U                                         | 2.0 U                                         | 2.0 U                                         | 2.0 U                                         | 2.0 U                                         | 2.0 U                                         | 2.0 U                                         |
| 1,1-Dichloroethene                                                           | 7                                    | 7                               | 1.0 U                                                | 2.0 U                                           | 2 U                                             | 1.0 U                                                | 1.0 U                                                | <i>200 U</i>                                     | 0.3 J                                         | 0.8 J                                         | 2.0 U                                         | 2.0 U                                         | 0.5 J                                         | 0.8 J                                         | 0.6 J                                         | 0.7 J                                         | 2.0 U                                         |
| cis-1,2-Dichloroethene                                                       | 70                                   | 70                              | 11.0                                                 | 15                                              | 19                                              | 1.0 U                                                | 1.0 U                                                | <i>500 U</i>                                     | 6.6                                           | 21                                            | 3.9 J                                         | 24                                            | 9.7                                           | 10                                            | 21                                            | 18                                            | 5.0 U                                         |
| trans-1,2-Dichloroethene                                                     | 100                                  | 120                             | 1.0 U                                                | 5.0 U                                           | 0.5 J                                           | 1.0 U                                                | 1.0 U                                                | <i>500 U</i>                                     | 13                                            | 52                                            | 2.0 J                                         | 64                                            | 25                                            | 15                                            | 60                                            | 48                                            | 5.0 U                                         |
| 1,2-Dichloropropane                                                          | 7                                    | 5                               | 1.0 U                                                | 1.0 U                                           | 1 U                                             | 1.0 U                                                | 1.0 U                                                | <i>100 U</i>                                     | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         | 1.0 U                                         |
| cis-1,3-Dichloropropene                                                      | NS                                   | 0.39                            | 1.0 U                                                | 5.0 U                                           | <i>5 U</i>                                      | 1.0 U                                                | 1.0 U                                                | <i>500 U</i>                                     | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| trans-1,3-Dichloropropene                                                    | NS                                   | 0.39                            | 1.0 U                                                | 5.0 U                                           | <i>5 U</i>                                      | 1.0 U                                                | 1.0 U                                                | <i>500 U</i>                                     | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| Ethylbenzene                                                                 | 700                                  | 1,300                           | 1.0 U                                                | 4.0 U                                           | 4 U                                             | 1.0 U                                                | 1.0 U                                                | <b>12,000</b>                                    | 4.0 U                                         | 4.0 U                                         | 4.0 U                                         | 4.0 U                                         | 4.0 U                                         | 4.0 U                                         | 4.0 U                                         | 4.0 U                                         | 4.0 U                                         |
| 2-Hexanone                                                                   | NS                                   | NS                              | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 10.0 U                                               | 10.0 U                                               | 500 U                                            | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| Isopropylbenzene                                                             | NS                                   | NS                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                               | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            |
| Methylene Chloride                                                           | NS                                   | 5                               | 1.0 U                                                | 3.0 U                                           | 3 U                                             | 1.0 U                                                | 1.0 U                                                | <i>300 U</i>                                     | 3.0 U                                         | 3.0 U                                         | 3.0 U                                         | 3.0 U                                         | 3.0 U                                         | 3.0 U                                         | 3.0 U                                         | 3.0 U                                         | 3.0 U                                         |
| 4-Methyl-2-pentanone                                                         | NS                                   | 160                             | 10.0 U                                               | 5.0 U                                           | 5 U                                             | 10.0 U                                               | 10.0 U                                               | 500 U                                            | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| Methyl tert-butyl ether                                                      | NS                                   | NS                              | 10.0 U                                               | NT                                              | NT                                              | 10.0 U                                               | 10.0 U                                               | NT                                               | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            |
| Styrene                                                                      | 100                                  | 1,600                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 1.0 U                                                | <i>500 U</i>                                     | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| 1,1,2,2-Tetrachloroethane                                                    | NS                                   | 0.055                           | 1.0 U                                                | 1.0 U                                           | <i>1 U</i>                                      | 1.0 U                                                | 1.0 U                                                | <i>100 U</i>                                     | <b>7.9</b>                                    | 1.0 U                                         | 0.8 J                                         | <b>32</b>                                     | <b>13</b>                                     | <b>12</b>                                     | <b>1.8</b>                                    | <b>1.4</b>                                    | <b>0.6 J</b>                                  |
| Tetrachloroethene                                                            | 5                                    | 5                               | 1.0 U                                                | 1.5                                             | 0.8 J                                           | 1.0 U                                                | 1.0 U                                                | <i>100 U</i>                                     | 1.0 U                                         | 1.0 U                                         | 7.5                                           | 3.5                                           | <b>6.6</b>                                    | <b>26</b>                                     | 1.0 U                                         | 1.0 U                                         | <b>49</b>                                     |
| Toluene                                                                      | 1,000                                | 1,000                           | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 1.0 U                                                | <b>4,400</b>                                     | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| 1,2,3-Trichlorobenzene                                                       | NS                                   | NS                              | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                               | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            |
| 1,2,4-Trichlorobenzene                                                       | 0.07                                 | 190                             | <i>1.0 U</i>                                         | NT                                              | NT                                              | <i>1.0 U</i>                                         | <i>1.0 U</i>                                         | NT                                               | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            |
| 1,1,1-Trichloroethane                                                        | 200                                  | 540                             | 1.0 U                                                | 5.0 U                                           | 5 U                                             | 1.0 U                                                | 1.0 U                                                | <i>500 U</i>                                     | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |
| 1,1,2-Trichloroethane                                                        | 5                                    | 5                               | 1.0 U                                                | 3.0 U                                           | 3 U                                             | 1.0 U                                                | 1.0 U                                                | <i>300 U</i>                                     | 1.2 J                                         | 1.7 J                                         | 3.0 U                                         | 1.8 J                                         | 0.9 J                                         | 3.0 U                                         | 3.0 U                                         | 3.0 U                                         | 3.0 U                                         |
| Trichloroethene                                                              | 5                                    | 5                               | <b>31.7</b>                                          | <b>66</b>                                       | <b>71</b>                                       | 1.0 U                                                | 1.3                                                  | <i>100 U</i>                                     | <b>62</b>                                     | 1.0 U                                         | 1.5                                           | <b>97</b>                                     | <b>82</b>                                     | <b>23</b>                                     | <b>14</b>                                     | <b>11</b>                                     | <b>13</b>                                     |
| Trichlorofluoromethane                                                       | NS                                   | 1,300                           | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                               | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            |
| 1,1,2-Trichloro-1,2,-trifluoroethane                                         | NS                                   | 59,000                          | 1.0 U                                                | NT                                              | NT                                              | 1.0 U                                                | 1.0 U                                                | NT                                               | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            | NT                                            |
| Vinyl Chloride                                                               | 2                                    | 2                               | 1.0 U                                                | 5.0 U                                           | <i>5 U</i>                                      | 1.0 U                                                | 1.0 U                                                | <i>500 U</i>                                     | 5.0 U                                         | 14                                            | 4.7 J                                         | <b>2.3 J</b>                                  | 5.0 U                                         | <b>9.7</b>                                    | <b>5.7</b>                                    | 0.9 J                                         | 5.0 U                                         |
| Xylene (Total)                                                               | 10,000                               | 1,000                           | 2.0 U                                                | 5.0 U                                           | 5 U                                             | 2.0 U                                                | 2.0 U                                                | <b>42,000</b>                                    | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         | 5.0 U                                         |

**Bold** value indicates concentration exceeds EPA MCL  
*Italicized* values indicates method detection limit exceeds EPA MCL  
U = Not Detected Above Level Indicated  
B = Compound Detected in Lab Blank  
NS = No Standard

Table 3  
Ground Water Semi-Volatile Organic Results 2002 - 2005  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works Facility, Huntington, West Virginia

| Sample ID<br>Laboratory ID<br>Sample Media<br>Sample Date | EPA MCL/<br>WVDEP<br>46CSR12 | WVDEP<br>Table<br>60-3B | TMW-1D<br>0208297-01A<br>Aqueous<br>08/07/02 | TMW-1D<br>616882<br>Aqueous<br>03/17/05 | TMW-2D<br>0208387-04A<br>Aqueous<br>08/08/02 | TMW-2D<br>611723<br>Aqueous<br>03/01/05 | TMW-3D<br>0208387-03A<br>Aqueous<br>08/08/02 | TMW-4S<br>0208401-01A<br>Aqueous<br>08/09/02 | TMW-4S<br>410423<br>Aqueous<br>02/22/03 | TMW-4S<br>611724<br>Aqueous<br>03/01/2005 | TMW-4D<br>0208401-02A<br>Aqueous<br>08/09/02 | TMW-4D<br>611725<br>Aqueous<br>02/28/05 | TMW-5D<br>0208297-03A<br>Aqueous<br>08/07/02 | TMW-5D<br>616883<br>Aqueous<br>03/17/05 | TMW-6D<br>0208387-01A<br>Aqueous<br>08/08/02 | TMW-7D<br>0208297-02A<br>Aqueous<br>08/07/02 | TMW-7D<br>616884<br>Aqueous<br>03/17/05 | TMW-8D<br>0208387-02A<br>Aqueous<br>08/08/02 | TMW-9D<br>0208261-01A<br>Aqueous<br>08/06/02 | TMW-11S<br>616885<br>Aqueous<br>03/17/05 |
|-----------------------------------------------------------|------------------------------|-------------------------|----------------------------------------------|-----------------------------------------|----------------------------------------------|-----------------------------------------|----------------------------------------------|----------------------------------------------|-----------------------------------------|-------------------------------------------|----------------------------------------------|-----------------------------------------|----------------------------------------------|-----------------------------------------|----------------------------------------------|----------------------------------------------|-----------------------------------------|----------------------------------------------|----------------------------------------------|------------------------------------------|
| Semi-Volatile Organics (ug/L)                             |                              |                         |                                              |                                         |                                              |                                         |                                              |                                              |                                         |                                           |                                              |                                         |                                              |                                         |                                              |                                              |                                         |                                              |                                              |                                          |
| Acenaphthene                                              | NS                           | 370                     | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Acenaphthylene                                            | NS                           | NS                      | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Aniline                                                   | NS                           | 12                      | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 0.4 J                                   | 8.5 U                                        | 118                                          | 1200                                    | 13 J                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 19 J                                     |
| Anthracene                                                | NS                           | 1800                    | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Benzidine                                                 | NS                           | 0.00029                 | 9.7 U                                        | 43 U                                    | 8.4 U                                        | 43 U                                    | 8.5 U                                        | 23.3 U                                       | 440 U                                   | 89 U                                      | 8.9 U                                        | 46 U                                    | 9.6 U                                        | 41 U                                    | 8.4 U                                        | 9.1 U                                        | 41 U                                    | 8.3 U                                        | 9.6 U                                        | 860 U                                    |
| Benzo(a)anthracene                                        | NS                           | 0.091                   | 9.7 U                                        | 1.1 U                                   | 8.4 U                                        | 1.1 U                                   | 8.5 U                                        | 23.3 U                                       | 11 U                                    | 2.2 U                                     | 8.9 U                                        | 1.1 U                                   | 9.6 U                                        | 1 U                                     | 8.4 U                                        | 9.1 U                                        | 1 U                                     | 8.3 U                                        | 9.6 U                                        | 22 U                                     |
| Benzo(a)pyrene                                            | 0.2                          | 0.2                     | 9.7 U                                        | 1.1 U                                   | 8.4 U                                        | 1.1 U                                   | 8.5 U                                        | 23.3 U                                       | 11 U                                    | 2.2 U                                     | 8.9 U                                        | 1.1 U                                   | 9.6 U                                        | 1 U                                     | 8.4 U                                        | 9.1 U                                        | 1 U                                     | 8.3 U                                        | 9.6 U                                        | 22 U                                     |
| Benzo(b)fluoranthene                                      | NS                           | 0.091                   | 9.7 U                                        | 1.1 U                                   | 8.4 U                                        | 1.1 U                                   | 8.5 U                                        | 23.3 U                                       | 11 U                                    | 2.2 U                                     | 8.9 U                                        | 1.1 U                                   | 9.6 U                                        | 1 U                                     | 8.4 U                                        | 9.1 U                                        | 1 U                                     | 8.3 U                                        | 9.6 U                                        | 22 U                                     |
| Benzo(g,h,i)perylene                                      | NS                           | NS                      | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Benzo(k)fluoranthene                                      | NS                           | 0.91                    | 9.7 U                                        | 1.1 U                                   | 8.4 U                                        | 1.1 U                                   | 8.5 U                                        | 23.3 U                                       | 11 U                                    | 2.2 U                                     | 8.9 U                                        | 1.1 U                                   | 9.6 U                                        | 1 U                                     | 8.4 U                                        | 9.1 U                                        | 1 U                                     | 8.3 U                                        | 9.6 U                                        | 22 U                                     |
| bis(2-Chloroethoxy)methane                                | NS                           | NS                      | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| bis(2-Chloroethyl)ether                                   | NS                           | 0.0097                  | 9.7 U                                        | 1.1 U                                   | 8.4 U                                        | 1.1 U                                   | 8.5 U                                        | 23.3 U                                       | NT                                      | 2.2 U                                     | 8.9 U                                        | 1.1 U                                   | 9.6 U                                        | 1 U                                     | 8.4 U                                        | 9.1 U                                        | 1 U                                     | 8.3 U                                        | 9.6 U                                        | 22 U                                     |
| bis(2-chloroisopropyl)ether                               | NS                           | 0.27                    | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| bis(2-Ethylhexyl)phthalate                                | NS                           | 6                       | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| 4-Bromophenyl-phenylether                                 | NS                           | NS                      | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Butylbenzylphthalate                                      | NS                           | 7300                    | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Carbazole                                                 | NS                           | 3.3                     | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| 4-Chloroaniline                                           | NS                           | 150                     | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 16 J                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| 4-Chloro-3-methylphenol                                   | NS                           | NS                      | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| 2-Chloronaphthalene                                       | NS                           | NS                      | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| 2-Chlorophenol                                            | NS                           | 30                      | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| 4-Chlorophenyl-phenylether                                | NS                           | NS                      | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Chrysene                                                  | NS                           | 9.1                     | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Dibenz(a,h)anthracene                                     | NS                           | 0.0091                  | 9.7 U                                        | 1.1 U                                   | 8.4 U                                        | 1.1 U                                   | 8.5 U                                        | 23.3 U                                       | 11 U                                    | 2.2 U                                     | 8.9 U                                        | 1.1 U                                   | 9.6 U                                        | 1 U                                     | 8.4 U                                        | 9.1 U                                        | 1 U                                     | 8.3 U                                        | 9.6 U                                        | 22 U                                     |
| Dibenzofuran                                              | NS                           | 24                      | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Di-n-butylphthalate                                       | NS                           | NS                      | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| 1,2-Dichlorobenzene                                       | 600                          | 600                     | NT                                           | 11 U                                    | NT                                           | 11 U                                    | NT                                           | NT                                           | NT                                      | 22 U                                      | NT                                           | 11 U                                    | NT                                           | 10 U                                    | NT                                           | NT                                           | 10 U                                    | NT                                           | NT                                           | 220 U                                    |
| 1,3-Dichlorobenzene                                       | NS                           | 600                     | NT                                           | 11 U                                    | NT                                           | 11 U                                    | NT                                           | NT                                           | NT                                      | 22 U                                      | NT                                           | 11 U                                    | NT                                           | 10 U                                    | NT                                           | NT                                           | 10 U                                    | NT                                           | NT                                           | 220 U                                    |
| 1,4-Dichlorobenzene                                       | 75                           | 70                      | NT                                           | 11 U                                    | NT                                           | 11 U                                    | NT                                           | NT                                           | NT                                      | 1.9 J                                     | NT                                           | 11 U                                    | NT                                           | 10 U                                    | NT                                           | NT                                           | 10 U                                    | NT                                           | NT                                           | 220 U                                    |
| 3,3'-Dichlorobenzidine                                    | NS                           | 0.15                    | 9.7 U                                        | 22 U                                    | 8.4 U                                        | 22 U                                    | 8.5 U                                        | 23.3 U                                       | 220 U                                   | 2 J                                       | 8.9 U                                        | 23 U                                    | 9.6 U                                        | 20 U                                    | 8.4 U                                        | 9.1 U                                        | 20 U                                    | 8.3 U                                        | 9.6 U                                        | 430 U                                    |
| 2,4-Dichlorophenol                                        | NS                           | 110                     | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Diethylphthalate                                          | NS                           | 29000                   | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Dimethylphthalate                                         | NS                           | 370000                  | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| 2,4-Dimethylphenol                                        | NS                           | 730                     | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 54.2                                         | NT                                      | 8.7 J                                     | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 53 J                                     |
| 4,6-Dinitro-2-methylphenol                                | NS                           | NS                      | 9.7 U                                        | 43 U                                    | 8.4 U                                        | 43 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 89 U                                      | 8.9 U                                        | 46 U                                    | 9.6 U                                        | 41 U                                    | 8.4 U                                        | 9.1 U                                        | 41 U                                    | 8.3 U                                        | 9.6 U                                        | 860 U                                    |
| 2,4-Dinitrophenol                                         | NS                           | 730                     | 9.7 U                                        | 43 U                                    | 8.4 U                                        | 43 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 89 U                                      | 8.9 U                                        | 46 U                                    | 9.6 U                                        | 41 U                                    | 8.4 U                                        | 9.1 U                                        | 41 U                                    | 8.3 U                                        | 9.6 U                                        | 860 U                                    |
| 2,4-Dinitrotoluene                                        | NS                           | 73                      | 9.7 U                                        | 2.2 U                                   | 8.4 U                                        | 2.2 U                                   | 8.5 U                                        | 23.3 U                                       | 22 U                                    | 4.4 U                                     | 8.9 U                                        | 2.3 U                                   | 9.6 U                                        | 2 U                                     | 8.4 U                                        | 9.1 U                                        | 2 U                                     | 8.3 U                                        | 9.6 U                                        | 43 U                                     |
| 2,6-Dinitrotoluene                                        | NS                           | 37                      | 9.7 U                                        | 2.2 U                                   | 8.4 U                                        | 2.2 U                                   | 8.5 U                                        | 23.3 U                                       | 22 U                                    | 4.4 U                                     | 8.9 U                                        | 2.3 U                                   | 9.6 U                                        | 2 U                                     | 8.4 U                                        | 9.1 U                                        | 2 U                                     | 8.3 U                                        | 9.6 U                                        | 43 U                                     |
| Di-n-octylphthalate                                       | NS                           | 730                     | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| 1,2-Diphenylhydrazine                                     | NS                           | 0.083                   | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Fluoranthene                                              | NS                           | 1500                    | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Fluorene                                                  | NS                           | 240                     | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Hexachlorobenzene                                         | 1                            | 1                       | 9.7 U                                        | 1.1 U                                   | 8.4 U                                        | 1.1 U                                   | 8.5 U                                        | 23.3 U                                       | 11 U                                    | 2.2 U                                     | 8.9 U                                        | 1.1 U                                   | 9.6 U                                        | 1 U                                     | 8.4 U                                        | 9.1 U                                        | 1 U                                     | 8.3 U                                        | 9.6 U                                        | 22 U                                     |
| Hexachlorobutadiene                                       | NS                           | 0.85                    | 9.7 U                                        | 2.2 U                                   | 8.4 U                                        | 2.2 U                                   | 8.5 U                                        | 23.3 U                                       | NT                                      | 4.4 U                                     | 8.9 U                                        | 2.3 U                                   | 9.6 U                                        | 2 U                                     | 8.4 U                                        | 9.1 U                                        | 2 U                                     | 8.3 U                                        | 9.6 U                                        | 43 U                                     |
| Hexachlorocyclopentadiene                                 | 50                           | 260                     | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Hexachloroethane                                          | NS                           | 4.7                     | 9.7 U                                        | 1.1 U                                   | 8.4 U                                        | 1.1 U                                   | 8.5 U                                        | 23.3 U                                       | NT                                      | 2.2 U                                     | 8.9 U                                        | 1.1 U                                   | 9.6 U                                        | 1 U                                     | 8.4 U                                        | 9.1 U                                        | 1 U                                     | 8.3 U                                        | 9.6 U                                        | 22 U                                     |
| Indeno(1,2,3-cd)pyrene                                    | NS                           | 0.091                   | 9.7 U                                        | 1.1 U                                   | 8.4 U                                        | 1.1 U                                   | 8.5 U                                        | 23.3 U                                       | 11 U                                    | 2.2 U                                     | 8.9 U                                        | 1.1 U                                   | 9.6 U                                        | 1 U                                     | 8.4 U                                        | 9.1 U                                        | 1 U                                     | 8.3 U                                        | 9.6 U                                        | 22 U                                     |
| Isophorone                                                | NS                           | 70                      | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| 2-Methylnaphthalene                                       | NS                           | NS                      | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| 2-Methylphenol                                            | NS                           | 1800                    | NT                                           | 11 U                                    | NT                                           | 11 U                                    | NT                                           | NT                                           | NT                                      | 22 U                                      | NT                                           | 11 U                                    | NT                                           | 10 U                                    | NT                                           | NT                                           | 10 U                                    | NT                                           | NT                                           | 9.6 J                                    |
| 4-Methylphenol                                            | NS                           | 180                     | NT                                           | 11 U                                    | NT                                           | 11 U                                    | NT                                           | NT                                           | NT                                      | 22 U                                      | NT                                           | 11 U                                    | NT                                           | 10 U                                    | NT                                           | NT                                           | 10 U                                    | NT                                           | NT                                           | 9.4 J                                    |
| Naphthalene                                               | NS                           | 6.2                     | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 0.4 J                                     | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| 2-Nitroaniline                                            | NS                           | 2.1                     | 9.7 U                                        | 22 U                                    | 8.4 U                                        | 22 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 44 U                                      | 8.9 U                                        | 23 U                                    | 9.6 U                                        | 20 U                                    | 8.4 U                                        | 9.1 U                                        | 20 U                                    | 8.3 U                                        | 9.6 U                                        | 430 U                                    |
| 3-Nitroaniline                                            | NS                           | NS                      | 9.7 U                                        | 22 U                                    | 8.4 U                                        | 22 U                                    | 8.5 U                                        | 23.3 U                                       | 220 U                                   | 44 U                                      | 8.9 U                                        | 23 U                                    | 9.6 U                                        | 20 U                                    | 8.4 U                                        | 9.1 U                                        | 20 U                                    | 8.3 U                                        | 9.6 U                                        | 430 U                                    |

Table 3  
Ground Water Semi-Volatile Organic Results 2002 - 2005  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works Facility, Huntington, West Virginia

| Sample ID<br>Laboratory ID<br>Sample Media<br>Sample Date | EPA MCL/<br>WVDEP<br>46CSR12 | WVDEP<br>Table<br>60-3B | TMW-1D<br>0208297-01A<br>Aqueous<br>08/07/02 | TMW-1D<br>616882<br>Aqueous<br>03/17/05 | TMW-2D<br>0208387-04A<br>Aqueous<br>08/08/02 | TMW-2D<br>611723<br>Aqueous<br>03/01/05 | TMW-3D<br>0208387-03A<br>Aqueous<br>08/08/02 | TMW-4S<br>0208401-01A<br>Aqueous<br>08/09/02 | TMW-4S<br>410423<br>Aqueous<br>02/22/03 | TMW-4S<br>611724<br>Aqueous<br>03/01/2005 | TMW-4D<br>0208401-02A<br>Aqueous<br>08/09/02 | TMW-4D<br>611725<br>Aqueous<br>02/28/05 | TMW-5D<br>0208297-03A<br>Aqueous<br>08/07/02 | TMW-5D<br>616883<br>Aqueous<br>03/17/05 | TMW-6D<br>0208387-01A<br>Aqueous<br>08/08/02 | TMW-7D<br>0208297-02A<br>Aqueous<br>08/07/02 | TMW-7D<br>616884<br>Aqueous<br>03/17/05 | TMW-8D<br>0208387-02A<br>Aqueous<br>08/08/02 | TMW-9D<br>0208261-01A<br>Aqueous<br>08/06/02 | TMW-11S<br>616885<br>Aqueous<br>03/17/05 |
|-----------------------------------------------------------|------------------------------|-------------------------|----------------------------------------------|-----------------------------------------|----------------------------------------------|-----------------------------------------|----------------------------------------------|----------------------------------------------|-----------------------------------------|-------------------------------------------|----------------------------------------------|-----------------------------------------|----------------------------------------------|-----------------------------------------|----------------------------------------------|----------------------------------------------|-----------------------------------------|----------------------------------------------|----------------------------------------------|------------------------------------------|
| Semi-Volatile Organics (ug/L)                             |                              |                         |                                              |                                         |                                              |                                         |                                              |                                              |                                         |                                           |                                              |                                         |                                              |                                         |                                              |                                              |                                         |                                              |                                              |                                          |
| 4-Nitroaniline                                            | NS                           | NS                      | 9.7 U                                        | 22 U                                    | 8.4 U                                        | 22 U                                    | 8.5 U                                        | 23.3 U                                       | 220 U                                   | 44 U                                      | 8.9 U                                        | 23 U                                    | 9.6 U                                        | 20 U                                    | 8.4 U                                        | 9.1 U                                        | 20 U                                    | 8.3 U                                        | 9.6 U                                        | 430 U                                    |
| Nitrobenzene                                              | NS                           | 3.4                     | 9.7 U                                        | 1.1 U                                   | 8.4 U                                        | 1.1 U                                   | 8.5 U                                        | 23.3 U                                       | NT                                      | 2.2 U                                     | 8.9 U                                        | 1.1 U                                   | 9.6 U                                        | 1 U                                     | 8.4 U                                        | 9.1 U                                        | 1 U                                     | 8.3 U                                        | 9.6 U                                        | 22 U                                     |
| 2-Nitrophenol                                             | NS                           | NS                      | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| 4-Nitrophenol                                             | NS                           | 290                     | 9.7 U                                        | 43 U                                    | 8.4 U                                        | 43 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 89 U                                      | 8.9 U                                        | 46 U                                    | 9.6 U                                        | 41 U                                    | 8.4 U                                        | 9.1 U                                        | 41 U                                    | 8.3 U                                        | 9.6 U                                        | 860 U                                    |
| N-Nitrosodiphenylamine                                    | NS                           | 14                      | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 90.1                                         | 45 J                                    | 130                                       | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 70 J                                     |
| N-Nitroso-di-n-propylamine                                | NS                           | 0.0095                  | 9.7 U                                        | 1.1 U                                   | 8.4 U                                        | 1.1 U                                   | 8.5 U                                        | 23.3 U                                       | NT                                      | 2.2 U                                     | 8.9 U                                        | 1.1 U                                   | 9.6 U                                        | 1 U                                     | 8.4 U                                        | 9.1 U                                        | 1 U                                     | 8.3 U                                        | 9.6 U                                        | 22 U                                     |
| Pentachlorophenol                                         | 1                            | 1                       | 9.7 U                                        | 43 U                                    | 8.4 U                                        | 43 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 89 U                                      | 8.9 U                                        | 46 U                                    | 9.6 U                                        | 41 U                                    | 8.4 U                                        | 9.1 U                                        | 41 U                                    | 8.3 U                                        | 9.6 U                                        | 860 U                                    |
| Phenanthrene                                              | NS                           | NS                      | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Phenol                                                    | NS                           | 22000                   | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| Pyrene                                                    | NS                           | 180                     | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | 110 U                                   | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| 1,2,4-Trichlorobenzene                                    | 70                           | 190                     | NT                                           | 1.1 U                                   | NT                                           | 1.1 U                                   | NT                                           | NT                                           | NT                                      | 2.2 U                                     | NT                                           | 1.1 U                                   | NT                                           | 1 U                                     | NT                                           | NT                                           | 1 U                                     | NT                                           | NT                                           | 22 U                                     |
| 2,4,5-Trichlorophenol                                     | NS                           | 3700                    | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| 2,4,6-Trichlorophenol                                     | NS                           | 6                       | 9.7 U                                        | 11 U                                    | 8.4 U                                        | 11 U                                    | 8.5 U                                        | 23.3 U                                       | NT                                      | 22 U                                      | 8.9 U                                        | 11 U                                    | 9.6 U                                        | 10 U                                    | 8.4 U                                        | 9.1 U                                        | 10 U                                    | 8.3 U                                        | 9.6 U                                        | 220 U                                    |
| 3,3'-Dimethoxybenzidine                                   | NS                           | 4.7                     | 9.7 U                                        | NT                                      | 8.4 U                                        | NT                                      | 8.5 U                                        | 23.3 U                                       | NT                                      | NT                                        | 8.9 U                                        | NT                                      | 9.6 U                                        | NT                                      | 8.4 U                                        | 9.1 U                                        | NT                                      | 8.3 U                                        | 9.6 U                                        | NT                                       |
| 3,3'-Dimethylbenzidine                                    | NS                           | 4.7                     | 9.7 U                                        | NT                                      | 8.4 U                                        | NT                                      | 8.5 U                                        | 23.3 U                                       | NT                                      | NT                                        | 8.9 U                                        | NT                                      | 9.6 U                                        | NT                                      | 8.4 U                                        | 9.1 U                                        | NT                                      | 8.3 U                                        | 9.6 U                                        | NT                                       |
| o-Cresol                                                  | NS                           | NS                      | 9.7 U                                        | NT                                      | 8.4 U                                        | NT                                      | 8.5 U                                        | 23.3 U                                       | NT                                      | NT                                        | 8.9 U                                        | NT                                      | 9.6 U                                        | NT                                      | 8.4 U                                        | 9.1 U                                        | NT                                      | 8.3 U                                        | 9.6 U                                        | NT                                       |
| m,p-Cresol                                                | NS                           | NS                      | 19.3 U                                       | NT                                      | 16.9 U                                       | NT                                      | 17 U                                         | 46.6 U                                       | NT                                      | NT                                        | 17.9 U                                       | NT                                      | 19.2 U                                       | NT                                      | 16.7 U                                       | 18.3 U                                       | NT                                      | 16.6 U                                       | 19.2 U                                       | NT                                       |

Notes:  
Bold value exceed standards  
Italicized MDL value exceeds EPA MCL  
NS = No Standard  
ND = Not Detected  
U = Not detected above MDL  
J = Estimated value

**Table 4**  
**Ground Water Polychlorinated Biphenyl and Metal Results for Ground Water 2002 - 2005**  
 RCRA Facility Investigation Phase II  
 Former BASF Huntington Works Facility, Huntington, West Virginia

| Sample ID<br>Laboratory ID<br>Sample Matrix<br>Sample Date<br>Unit of Measure | EPA MCL/<br>WVDEP<br>46CSR12<br>mg/L | WVDEP<br>Table<br>60-3B<br>mg/L | TMW-1D<br>0208297-01A<br>Aqueous<br>08/07/02<br>mg/L | TMW-2D<br>0208387-04A<br>Aqueous<br>08/08/02<br>mg/L | TMW-3D<br>0208387-03A<br>Aqueous<br>08/08/02<br>mg/L | TMW-4S<br>0208401-01A<br>Aqueous<br>08/09/02<br>mg/L | TMW-4S<br>611724<br>Aqueous<br>03/01/05<br>mg/L | TMW-4D<br>0208401-02A<br>Aqueous<br>08/09/02<br>mg/L | TMW-5D<br>0208297-03A<br>Aqueous<br>08/07/02<br>mg/L | TMW-6D<br>0208387-01A<br>Aqueous<br>08/08/02<br>mg/L | TMW-7D<br>0208297-02A<br>Aqueous<br>08/07/02<br>mg/L | TMW-8D<br>0208387-02A<br>Aqueous<br>08/08/02<br>mg/L | TMW-9D<br>0208261-01A<br>Aqueous<br>08/06/02<br>mg/L | TMW-10D<br>0208401-03A<br>Aqueous<br>08/09/02<br>mg/L | TMW-11S<br>611728<br>Aqueous<br>03/01/05<br>mg/L |
|-------------------------------------------------------------------------------|--------------------------------------|---------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|-------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------|
| <b>PCBs</b>                                                                   |                                      |                                 |                                                      |                                                      |                                                      |                                                      |                                                 |                                                      |                                                      |                                                      |                                                      |                                                      |                                                      |                                                       |                                                  |
| Aroclor-1016                                                                  | 0.0005                               | 950                             | 0.000548 U                                           | 0.000427 U                                           | 0.000417 U                                           | 0.00192 U                                            | NT                                              | 0.000426 U                                           | 0.000558 U                                           | 0.000417 U                                           | 0.000609 U                                           | 0.000292 U                                           | 0.000602 U                                           | 0.000415 U                                            | NT                                               |
| Aroclor-1221                                                                  | 0.0005                               | 33                              | 0.000548 U                                           | 0.000427 U                                           | 0.000417 U                                           | 0.00192 U                                            | NT                                              | 0.000426 U                                           | 0.000558 U                                           | 0.000417 U                                           | 0.000609 U                                           | 0.000292 U                                           | 0.000602 U                                           | 0.000415 U                                            | NT                                               |
| Aroclor-1232                                                                  | 0.0005                               | 33                              | 0.000548 U                                           | 0.000427 U                                           | 0.000417 U                                           | 0.00192 U                                            | NT                                              | 0.000426 U                                           | 0.000558 U                                           | 0.000417 U                                           | 0.000609 U                                           | 0.000292 U                                           | 0.000602 U                                           | 0.000415 U                                            | NT                                               |
| Aroclor-1242                                                                  | 0.0005                               | 33                              | 0.000548 U                                           | 0.000427 U                                           | 0.000417 U                                           | 0.00192 U                                            | NT                                              | 0.000426 U                                           | 0.000558 U                                           | 0.000417 U                                           | 0.000609 U                                           | 0.000292 U                                           | 0.000602 U                                           | 0.000415 U                                            | NT                                               |
| Aroclor-1248                                                                  | 0.0005                               | 33                              | 0.000548 U                                           | 0.000427 U                                           | 0.000417 U                                           | 0.00192 U                                            | NT                                              | 0.000426 U                                           | 0.000558 U                                           | 0.000417 U                                           | 0.000609 U                                           | 0.000292 U                                           | 0.000602 U                                           | 0.000415 U                                            | NT                                               |
| Aroclor-1254                                                                  | 0.0005                               | 33                              | 0.000548 U                                           | 0.000427 U                                           | 0.000417 U                                           | 0.00192 U                                            | NT                                              | 0.000426 U                                           | 0.000558 U                                           | 0.000417 U                                           | 0.000609 U                                           | 0.000292 U                                           | 0.000602 U                                           | 0.000415 U                                            | NT                                               |
| Aroclor-1260                                                                  | 0.0005                               | 33                              | 0.000548 U                                           | 0.000427 U                                           | 0.000417 U                                           | 0.00192 U                                            | NT                                              | 0.000426 U                                           | 0.000558 U                                           | 0.000417 U                                           | 0.000609 U                                           | 0.000292 U                                           | 0.000602 U                                           | 0.000415 U                                            | NT                                               |
| Total PCBs                                                                    | 0.0005                               | 33                              | 0.000548 U                                           | 0.000427 U                                           | 0.000417 U                                           | 0.00192 U                                            | NT                                              | 0.000426 U                                           | 0.000558 U                                           | 0.000417 U                                           | 0.000609 U                                           | 0.000292 U                                           | 0.000602 U                                           | 0.000415 U                                            | NT                                               |
| <b>Metals</b>                                                                 |                                      |                                 |                                                      |                                                      |                                                      |                                                      |                                                 |                                                      |                                                      |                                                      |                                                      |                                                      |                                                      |                                                       |                                                  |
| Aluminum                                                                      | NS                                   | 37                              | 0.333                                                | 0.195                                                | 0.213                                                | 201                                                  | 0.125 U                                         | 0.136                                                | 0.186                                                | 0.268                                                | 0.351                                                | 0.161                                                | 0.227                                                | 0.153                                                 | 0.0626 U                                         |
| Antimony                                                                      | 0.006                                | 0.015                           | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | 0.050 U                                              | 0.0116 U                                        | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | 0.0025                                               | 0.0010 U                                              | 0.0058 U                                         |
| Arsenic                                                                       | 0.01                                 | 0.05                            | 0.0100 U                                             | <b>0.0193</b>                                        | 0.0100 U                                             | 0.500 U                                              | 0.0067 J                                        | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                              | <b>0.0188</b>                                    |
| Barium                                                                        | 2                                    | 2.6                             | 0.056                                                | 0.250                                                | 0.121                                                | <b>43.2</b>                                          | 0.115 J                                         | 0.0836                                               | 0.159                                                | 0.0988                                               | 0.159                                                | 0.0659                                               | 0.0307                                               | 0.0880                                                | 0.18 J                                           |
| Beryllium                                                                     | 0.004                                | 0.073                           | 0.001 U                                              | 0.001 U                                              | 0.001 U                                              | 0.50 U                                               | 0.0006 U                                        | 0.001 U                                              | 0.001 U                                              | 0.001 U                                              | 0.001 U                                              | 0.001 U                                              | 0.001 U                                              | 0.001 U                                               | 0.0003 U                                         |
| Cadmium                                                                       | 0.005                                | 0.018                           | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | <b>0.022</b>                                         | 0.0008 U                                        | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                              | 0.0004 U                                         |
| Calcium                                                                       | NS                                   | NS                              | 101                                                  | 46.0                                                 | 83.7                                                 | 244                                                  | 113                                             | 98.6                                                 | 57.5                                                 | 107                                                  | 84.4                                                 | 101                                                  | 111                                                  | 98.3                                                  | 116                                              |
| Chromium                                                                      | 0.1*                                 | 110                             | 0.0050 U                                             | 0.0050 U                                             | 0.0050 U                                             | 2.00 U                                               | 0.0032 U                                        | 0.0050 U                                             | 0.0050 U                                             | 0.0050 U                                             | 0.0056                                               | 0.0050 U                                             | 0.0050 U                                             | 0.0050 U                                              | 0.0016 U                                         |
| Cobalt                                                                        | NS                                   | 2.2                             | 0.0050 U                                             | 0.0050 U                                             | 0.0050 U                                             | 0.50 U                                               | 0.0117 J                                        | 0.0050 U                                             | 0.0095                                               | 0.0053                                               | 0.0050 U                                             | 0.0053                                               | 0.0090                                               | 0.0050 U                                              | 0.0064 J                                         |
| Copper                                                                        | 1.3                                  | 1.4                             | 0.0050 U                                             | 0.0050 U                                             | 0.0050 U                                             | 0.75                                                 | 0.0077 J                                        | 0.0050 U                                             | 0.0050 U                                             | 0.0050 U                                             | 0.0050 U                                             | 0.0050 U                                             | 0.0050 U                                             | 0.0050 U                                              | 0.0037 U                                         |
| Iron                                                                          | NS                                   | 11                              | 1.99                                                 | 16.8                                                 | 5.42                                                 | 1,620                                                | 62.3                                            | 7.04                                                 | 1.00                                                 | 0.430                                                | 2.98                                                 | 0.369                                                | 0.939                                                | 7.02                                                  | 98.5                                             |
| Lead                                                                          | 0.015                                | 0.015                           | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | <b>0.870</b>                                         | 0.0052 U                                        | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                              | 0.0026 U                                         |
| Magnesium                                                                     | NS                                   | NS                              | 22.2                                                 | 10.1                                                 | 25.8                                                 | 59.7                                                 | 19.6                                            | 29.6                                                 | 14.5                                                 | 18.1                                                 | 16.6                                                 | 21.9                                                 | 24                                                   | 29.7                                                  | 11.5                                             |
| Manganese                                                                     | NS                                   | 0.88                            | 10.8                                                 | 5.53                                                 | 8.52                                                 | 80.1                                                 | 27.7                                            | 1.62                                                 | 2.95                                                 | 2.31                                                 | 1.59                                                 | 1.81                                                 | 6.00                                                 | 1.62                                                  | 5.86                                             |
| Mercury                                                                       | 0.002                                | 0.011                           | 0.0002 U                                             | 0.0002 U                                             | 0.0002 U                                             | 0.01 U                                               | 0.0001 U                                        | 0.0002 U                                             | 0.0002 U                                             | 0.0002 U                                             | 0.0002 U                                             | 0.0002 U                                             | 0.0002 U                                             | 0.0002 U                                              | 0.0001 U                                         |
| Nickel                                                                        | 0.1*                                 | 0.73                            | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | <b>0.72</b>                                          | 0.0051 J                                        | 0.0100 U                                             | 0.0127                                               | 0.0128                                               | 0.0125                                               | 0.0119                                               | 0.0181                                               | 0.0100 U                                              | 0.0025 J                                         |
| Potassium                                                                     | NS                                   | NS                              | 1.03                                                 | 25.7                                                 | 2.85                                                 | 36.6                                                 | 18.5                                            | 2.29                                                 | 2.36                                                 | 3.09                                                 | 6.52                                                 | 3.15                                                 | 2                                                    | 2.34                                                  | 2.52 J                                           |
| Selenium                                                                      | 0.05*                                | 0.18                            | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.050 U                                              | 0.0084 U                                        | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                              | 0.0042 U                                         |
| Silver                                                                        | NS                                   | 0.18                            | 0.005 U                                              | 0.005 U                                              | 0.005 U                                              | 0.50 U                                               | 0.0028 U                                        | 0.005 U                                              | 0.005 U                                              | 0.005 U                                              | 0.005 U                                              | 0.005 U                                              | 0.005 U                                              | 0.005 U                                               | 0.0014 U                                         |
| Sodium                                                                        | NS                                   | NS                              | 32                                                   | 98.6                                                 | 36.0                                                 | 288                                                  | 59.3                                            | 24.9                                                 | 31.3                                                 | 29.0                                                 | 28.2                                                 | 45.0                                                 | 36.0                                                 | 25.2                                                  | 25.2                                             |
| Thallium                                                                      | 0.002                                | 0.0024                          | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | 0.050 U                                              | 0.0094 U                                        | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | 0.0010 U                                             | 0.0100 U                                             | 0.0010 U                                              | 0.0047 U                                         |
| Vanadium                                                                      | NS                                   | 0.26                            | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.50 U                                               | 0.004 U                                         | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.0010 U                                             | 0.0100 U                                              | 0.002 U                                          |
| Zinc                                                                          | NS                                   | 11                              | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 1.78                                                 | 0.0125 J                                        | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                             | 0.0100 U                                              | 0.0058 U                                         |

**Bold** value indicates concentration exceeds EPA MCL

*Italicized* values indicates method detection limit exceeds EPA MCL

U = Not Detected Above Level Indicated

NS = No Standard

TMW-10D is a duplicate sample of TMW-4D

**Table 5**  
**RCRA Facility Investigation Phase II Sample Summary**  
 RCRA Facility Investigation Phase II  
 Former BASF Huntington Works Facility, Huntington, West Virginia

| Area of Concern                                                     | Sample ID    | Boring ID/<br>Well ID | Laboratory ID | Sample<br>Date | Sample<br>Matrix | Sample Depth<br>(feet) | PID<br>(ppm) | Analytical Paraments                                    | WVSP NAD83<br>South Coordinates |            |
|---------------------------------------------------------------------|--------------|-----------------------|---------------|----------------|------------------|------------------------|--------------|---------------------------------------------------------|---------------------------------|------------|
|                                                                     |              |                       |               |                |                  |                        |              |                                                         | Easting                         | Northing   |
| <b>Former Process<br/>Sewers<br/>(AOC-2)</b>                        | AOC2-01-7.0  | AOC2-01               | A9G150161008  | 07/13/09       | Soil             | 7.0-7.5                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1563635.391                     | 521557.876 |
|                                                                     | AOC2-02-7.0  | AOC2-02               | A9G150161007  | 07/13/09       | Soil             | 7.0-7.5                | 18           | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1563521.502                     | 521557.154 |
|                                                                     | AOC2-03-8.0  | AOC2-03               | A9G150161005  | 07/13/09       | Soil             | 8.0-8.5                | 30           | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1563508.859                     | 521616.797 |
|                                                                     | AOC2-04-7.5  | AOC2-04               | A9G150161009  | 07/13/09       | Soil             | 7.5-8.0                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1563393.124                     | 521538.709 |
|                                                                     | AOC2-05-9.5  | AOC2-05               | A9G150150004  | 07/14/09       | Soil             | 9.5-10.0               | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1563334.296                     | 521524.892 |
|                                                                     | AOC2-06-9.5  | AOC2-06               | A9G150150003  | 07/14/09       | Soil             | 9.5-10.0               | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1563363.983                     | 521521.516 |
|                                                                     | AOC2-07-9.0  | AOC2-07               | A9G150161003  | 07/13/09       | Soil             | 9.0-9.5                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1563291.544                     | 521665.298 |
|                                                                     | AOC2-08-8.0  | AOC2-08               | A9G150161004  | 07/13/09       | Soil             | 8.0-8.5                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1563280.465                     | 521701.036 |
|                                                                     | AOC2-09-9.5  | AOC2-09               | A9G150150005  | 07/14/09       | Soil             | 9.5-10.0               | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1563304.522                     | 521523.333 |
|                                                                     | AOC2-10-10.0 | AOC2-10               | A9G110141009  | 07/10/09       | Soil             | 10.0-10.5              | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1563352.753                     | 521413.844 |
|                                                                     | AOC2-11-6.5  | AOC2-11               | A9G110141008  | 07/10/09       | Soil             | 6.5-7.0                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1563081.293                     | 521444.711 |
|                                                                     | AOC2-12-9.0  | AOC2-12               | A9G110141007  | 07/10/09       | Soil             | 9.0-9.5                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1563032.417                     | 521472.589 |
|                                                                     | AOC2-13-7.0  | AOC2-13               | A9G110141006  | 07/10/09       | Soil             | 7.0-7.5                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1563019.341                     | 521559.091 |
|                                                                     | AOC2-14-9.0  | AOC2-14               | A9G110141005  | 07/10/09       | Soil             | 9.0-9.5                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1562977.208                     | 521463.909 |
|                                                                     | AOC2-15-11.0 | AOC2-15               | A9G110141004  | 07/10/09       | Soil             | 11.0-11.5              | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1562862.049                     | 521439.664 |
|                                                                     | AOC2-16-10.0 | AOC2-16               | A9G110141003  | 07/10/09       | Soil             | 10.0-10.5              | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1562743.589                     | 521411.997 |
|                                                                     | AOC2-17-11.0 | AOC2-17               | A9G100171013  | 07/09/09       | Soil             | 11.0-11.5              | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1562643.750                     | 521391.452 |
|                                                                     | AOC2-18-11.0 | AOC2-18               | A9G100171012  | 07/09/09       | Soil             | 11.0-11.5              | 100          | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1562577.397                     | 521375.349 |
|                                                                     | AOC2-19-10.0 | AOC2-19               | A9G100171011  | 07/09/09       | Soil             | 10.0-10.5              | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1562596.278                     | 521303.575 |
|                                                                     | AOC2-20-9.5  | AOC2-20               | A9G100171010  | 07/09/09       | Soil             | 9.5-10.0               | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1562688.781                     | 521267.574 |
| <b>On-Site Waste<br/>Water<br/>Treatment<br/>System<br/>(AOC-5)</b> | AOC5-01-20.0 | AOC5-01               | A9G100171007  | 07/09/09       | Soil             | 20.0-20.5              | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1562830.688                     | 521344.156 |
|                                                                     | AOC5-02-20.0 | AOC5-02               | A9G100171005  | 07/09/09       | Soil             | 20.0-20.5              | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1562854.866                     | 521376.920 |
|                                                                     | AOC5-03-20.0 | AOC5-03               | A9G100171004  | 07/09/09       | Soil             | 20.0-20.5              | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1562841.478                     | 521382.889 |
|                                                                     | AOC5-04-21.0 | AOC5-04               | A9G100171003  | 07/09/09       | Soil             | 21.0-21.5              | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1562816.141                     | 521377.991 |
|                                                                     | AOC5-05-22.0 | AOC5-05               | A9G100171009  | 07/09/09       | Soil             | 22.0-22.5              | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1562688.781                     | 521267.574 |
|                                                                     | AOC5-06-20.0 | AOC5-06               | A9G100171008  | 07/09/09       | Soil             | 20.0-20.5              | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1562726.567                     | 521261.252 |
| <b>Above Ground<br/>Storage Tanks<br/>(AOC 6)</b>                   | AOC6-01-1.5  | AOC6-01               | A9G160162007  | 07/15/09       | Soil             | 1.5-2.0                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals, pH                  | 1563723.576                     | 521543.968 |
|                                                                     | AOC6-02-1.5  | AOC6-02               | A9G160162005  | 07/15/09       | Soil             | 1.5-2.0                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals, pH                  | 1563663.211                     | 521566.172 |
|                                                                     | AOC6-03-1.0  | AOC6-03               | A9G160162008  | 07/15/09       | Soil             | 1.0-1.5                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals, pH                  | 1563660.467                     | 521481.351 |
|                                                                     | AOC6-04-1.5  | AOC6-04               | A9G160162004  | 07/15/09       | Soil             | 1.5-2.0                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals, pH                  | 1563642.086                     | 521556.270 |
|                                                                     | AOC6-05-2.0  | AOC6-05               | A9G160162010  | 07/15/09       | Soil             | 2.0-2.5                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals, pH, Ethylene Glycol | 1563606.630                     | 521469.346 |
|                                                                     | AOC6-06-5.0  | AOC6-06               | A9G160162006  | 07/15/09       | Soil             | 5.0-5.5                | 134          | RCRA APP IX VOC, SVOC, PCB, Metals, pH, Ethylene Glycol | 1563595.842                     | 521525.634 |
|                                                                     | AOC6-07-2.0  | AOC6-07               | A9G160162003  | 07/15/09       | Soil             | 2.0-2.5                | 1152         | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1563550.767                     | 521460.328 |
|                                                                     | AOC6-08-6.5  | AOC6-08               | A9G160162002  | 07/15/09       | Soil             | 6.5-7.0                | 92.9         | RCRA APP IX VOC, SVOC, PCB, Metals                      | 1563525.820                     | 521504.334 |
|                                                                     | AOC6-09-6.5  | AOC6-09               | A9G150150010  | 07/14/09       | Soil             | 6.5-7.0                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals, pH                  | 1563323.366                     | 521400.125 |
|                                                                     | AOC6-10-2.5  | AOC6-10               | A9G150150009  | 07/14/09       | Soil             | 2.5-3.0                | 7.9          | RCRA APP IX VOC, SVOC, PCB, Metals, pH                  | 1563294.265                     | 521416.068 |
|                                                                     | AOC6-11-2.0  | AOC6-11               | A9G150150007  | 07/14/09       | Soil             | 2.0-2.5                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals, pH                  | 1563243.824                     | 521407.172 |
|                                                                     | AOC6-12-8.0  | AOC6-12               | A9G150150008  | 07/14/09       | Soil             | 8.0-8.5                | 9            | RCRA APP IX VOC, SVOC, PCB, Metals, pH                  | 1563289.500                     | 521430.854 |
|                                                                     | AOC6-13-3.0  | AOC6-13               | A9G150150006  | 07/14/09       | Soil             | 3.0-3.5                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals, pH                  | 1563247.002                     | 521451.830 |



**Table 5**  
**RCRA Facility Investigation Phase II Sample Summary**  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works Facility, Huntington, West Virginia

| Area of Concern                                   | Sample ID                        | Boring ID/<br>Well ID | Laboratory ID | Sample<br>Date | Sample<br>Matrix | Sample Depth<br>(feet) | PID<br>(ppm) | Analytical Paraments                                      | WVSP NAD83<br>South Coordinates |            |
|---------------------------------------------------|----------------------------------|-----------------------|---------------|----------------|------------------|------------------------|--------------|-----------------------------------------------------------|---------------------------------|------------|
|                                                   |                                  |                       |               |                |                  |                        |              |                                                           | Easting                         | Northing   |
| <b>Above Ground<br/>Storage Tanks<br/>(AOC 6)</b> | AOC6-14-2.0                      | AOC6-14               | A9G150161010  | 07/13/09       | Soil             | 2.0-2.5                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals, DRO TPH               | 1562856.322                     | 521246.668 |
|                                                   | AOC6-15-6.0                      | AOC6-15               | A9G150161011  | 07/13/09       | Soil             | 6.0-6.5                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals, DRO TPH               | 1562779.569                     | 521261.844 |
|                                                   | AOC6-16-2.0                      | AOC6-16               | A9G150161012  | 07/13/09       | Soil             | 2.0-2.5                | 0            | RCRA APP IX VOC, SVOC, PCB, Metals, DRO TPH               | 1562749.137                     | 521213.408 |
| <b>Groundwater<br/>(AOC-9)</b>                    | TMW-1D                           | TMW-1D                | A9G240125002  | 07/23/09       | Groundwater      | NA                     | NA           | RCRA APP IX VOC, SVOC, Metals, Dissolved Gases,<br>Anions | 1563081.499                     | 522174.789 |
|                                                   | TMW-2D                           | TMW-2D                | A9G240125003  | 07/23/09       | Groundwater      | NA                     | NA           | RCRA APP IX VOC, SVOC, Metals, Dissolved Gases,<br>Anions | 1563230.215                     | 520968.613 |
|                                                   | TMW-4S                           | TMW-4S                | A9G240125004  | 07/23/09       | Groundwater      | NA                     | NA           | RCRA APP IX VOC, SVOC, Metals, Dissolved Gases,<br>Anions | 1563407.275                     | 521097.430 |
|                                                   | TMW-4D                           | TMW-4D                | A9G240125005  | 07/23/09       | Groundwater      | NA                     | NA           | RCRA APP IX VOC, SVOC, Metals, Dissolved Gases,<br>Anions | 1563407.275                     | 521097.430 |
|                                                   | TMW-5D                           | TMW-5D                | A9G250133003  | 07/24/09       | Groundwater      | NA                     | NA           | RCRA APP IX VOC, SVOC, Metals, Dissolved Gases,<br>Anions | 1564769.496                     | 521703.923 |
|                                                   | TMW-6D                           | TMW-6D                | A9G250133002  | 07/24/09       | Groundwater      | NA                     | NA           | RCRA APP IX VOC, SVOC, Metals, Dissolved Gases,<br>Anions | 1565358.576                     | 521189.129 |
|                                                   | TMW-7D                           | TMW-7D                | A9G250133005  | 07/24/09       | Groundwater      | NA                     | NA           | RCRA APP IX VOC, SVOC, Metals, Dissolved Gases,<br>Anions | 1564844.645                     | 521935.468 |
|                                                   | TMW-8D                           | TMW-8D                | A9G250133001  | 07/24/09       | Groundwater      | NA                     | NA           | RCRA APP IX VOC, SVOC, Metals, Dissolved Gases,<br>Anions | 1564251.535                     | 521661.221 |
|                                                   | TMW-9D                           | TMW-9D                | A9G230196001  | 07/22/09       | Groundwater      | NA                     | NA           | RCRA APP IX VOC, SVOC, Metals, Dissolved Gases,<br>Anions | 1562555.123                     | 522101.897 |
|                                                   | TMW-11S                          | TMW-11S               | A9G240125007  | 07/23/09       | Groundwater      | NA                     | NA           | RCRA APP IX VOC, SVOC, Metals, Dissolved Gases,<br>Anions | 1562555.123                     | 522101.897 |
|                                                   | TMW-12D                          | TMW-12D               | A9G230196003  | 07/22/09       | Groundwater      | NA                     | NA           | RCRA APP IX VOC, SVOC, Metals, Dissolved Gases,<br>Anions | 1563073.235                     | 522241.847 |
| <b>QA/QC</b>                                      | AOC2-21-8.0<br>(DUP AOC2-03-8)   | AOC2-03               | A9G150161006  | 07/13/09       | Soil             | 8.0-8.5                | 30           | RCRA APP IX VOC, SVOC, PCB, Metals                        | 1563508.859                     | 521616.797 |
|                                                   | AOC5-07-20.0<br>(DUP AOC5-02-20) | AOC5-02               | A9G100171006  | 07/09/09       | Soil             | 20.0-20.5              | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                        | 1562854.866                     | 521376.920 |
|                                                   | AOC6-22-1.0<br>(DUP AOC6-03-1)   | AOC6-03               | A9G160162009  | 07/15/09       | Soil             | 1-1.5                  | 0            | RCRA APP IX VOC, SVOC, PCB, Metals                        | 1563660.467                     | 521481.351 |
|                                                   | TMW-10<br>(DUP TMW-4D)           | TMW-4D                | A9G240125001  | 07/23/09       | Groundwater      | NA                     | NA           | RCRA APP IX VOC, SVOC, Metals, Dissolved Gases,<br>Anions | 1563081.499                     | 522174.789 |
|                                                   | FB-070909                        | NA                    | A9G100171001  | 07/09/09       | Blank            | NA                     | NA           | RCRA APP IX VOC, SVOC, PCB, Metals                        | NA                              | NA         |
|                                                   | FB-071009                        | NA                    | A9G110141001  | 07/10/09       | Blank            | NA                     | NA           | RCRA APP IX VOC, SVOC, PCB, Metals                        | NA                              | NA         |
|                                                   | FB-071309                        | NA                    | A9G150161001  | 07/13/09       | Blank            | NA                     | NA           | RCRA APP IX VOC, SVOC, PCB, Metals                        | NA                              | NA         |
|                                                   | FB-071409                        | NA                    | A9G150150001  | 07/14/09       | Blank            | NA                     | NA           | RCRA APP IX VOC, SVOC, PCB, Metals                        | NA                              | NA         |
|                                                   | FB-071509                        | NA                    | A9G160162001  | 07/15/09       | Blank            | NA                     | NA           | RCRA APP IX VOC, SVOC, PCB, Metals, ethylene glycol       | NA                              | NA         |

**Table 5**  
**RCRA Facility Investigation Phase II Sample Summary**  
 RCRA Facility Investigation Phase II  
 Former BASF Huntington Works Facility, Huntington, West Virginia

| Area of Concern | Sample ID  | Boring ID/<br>Well ID | Laboratory ID | Sample<br>Date | Sample<br>Matrix | Sample Depth<br>(feet) | PID<br>(ppm) | Analytical Paraments                                      | WVSP NAD83<br>South Coordinates |          |
|-----------------|------------|-----------------------|---------------|----------------|------------------|------------------------|--------------|-----------------------------------------------------------|---------------------------------|----------|
|                 |            |                       |               |                |                  |                        |              |                                                           | Easting                         | Northing |
| QA/QC           | FB-072209  | NA                    | A9G230196002  | 07/22/09       | Blank            | NA                     | NA           | RCRA APP IX VOC, SVOC, Metals, Dissolved Gases,<br>Anions | NA                              | NA       |
|                 | FB-072309  | NA                    | A9G240125006  | 07/23/09       | Blank            | NA                     | NA           | RCRA APP IX VOC, SVOC, Metals, Dissolved Gases,<br>Anions | NA                              | NA       |
|                 | FB-072409  | NA                    | A9G250133004  | 07/24/09       | Blank            | NA                     | NA           | RCRA APP IX VOC, SVOC, Metals, Dissolved Gases,<br>Anions | NA                              | NA       |
|                 | TB-070909  | NA                    | A9G100171002  | 07/09/09       | Blank            | NA                     | NA           | RCRA APP IX VOC                                           | NA                              | NA       |
|                 | TB-071009  | NA                    | A9G110141002  | 07/10/09       | Blank            | NA                     | NA           | RCRA APP IX VOC                                           | NA                              | NA       |
|                 | TB-071309  | NA                    | A9G150161002  | 07/13/09       | Blank            | NA                     | NA           | RCRA APP IX VOC                                           | NA                              | NA       |
|                 | TB-071409  | NA                    | A9G150150002  | 07/14/09       | Blank            | NA                     | NA           | RCRA APP IX VOC                                           | NA                              | NA       |
|                 | TB-072209  | NA                    | A9G230196004  | 07/22/09       | Blank            | NA                     | NA           | RCRA APP IX VOC                                           | NA                              | NA       |
|                 | TB-072309  | NA                    | A9G240125008  | 07/23/09       | Blank            | NA                     | NA           | RCRA APP IX VOC                                           | NA                              | NA       |
|                 | TB-072409  | NA                    | A9G250133006  | 07/24/09       | Blank            | NA                     | NA           | RCRA APP IX VOC                                           | NA                              | NA       |
|                 | AOC2-22-10 | NA                    | A9G200110     | 07/13/09       | PE               | NA                     | NA           | RCRA APP IX VOC, SVOC, PCB, Metals                        | NA                              | NA       |

Notes:

1. RCRA Appendix IX VOC analysis includes 1,4-dioxane
2. RCRA Appendix IX SVOC analysis includes benzidine, 1,2-diphenyldrazine, and 3,3'-dimethoxybezidine
3. PE - Performace Evaluation Sample
4. Dissolved Gases analysis includes methane, ethane and ethene
5. Anions analysis includes chloride, nitrate and sulfate
6. NA - Not Applicable

**Table 6**  
**Monitoring Well Construction Information**

RCRA Facility Investigation Phase II  
Former BASF Huntington Works Facility, Huntington, West Virginia

| Monitoring Well                   | TMW-1D           | TMW-2D           | TMW-3D           | TMW-4S           | TMW-4D           | TMW-5D           |
|-----------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| WVDEP Permit #                    | WV-00226-0022-02 | WV-00226-0017-02 | WV-00226-0015-02 | WV-00226-0013-02 | WV-00226-0014-02 | WV-00226-0018-02 |
| Date of Install                   | 6/25/2002        | 6/21/2002        | 6/19/2002        | 6/18/2002        | 6/18/2002        | 7/8/2009         |
| Driller                           | Triad            | Triad            | Triad            | Triad            | Triad            | Triad            |
| Borehole Diameter (in)            | 6                | 6                | 6                | 6                | 6                | 6                |
| Latitude                          | 38 25 31 .8      | 38 25 19 .9      | 38 25 31 .2      | 38 25 21 .2      | 38 25 21 .2      | 38 25 27 .4      |
| Longitude                         | 82 24 55 .0      | 82 24 52 .9      | 82 24 49 .4      | 82 24 50 .7      | 82 24 50 .7      | 82 24 33 .7      |
| Top of Casing Elev (ft MSL)       | 548.23           | 549.46           | 551.96           | 550.35           | 550.42           | 557.97           |
| Top of Screen Elevation (ft MSL)  | 504.73           | 522.57           | 500.96           | 530.35           | 499.42           | 506.97           |
| Bottom of Well Elevation (ft MSL) | 494.73           | 512.57           | 493.96           | 520.35           | 494.42           | 499.97           |
| Ground Water Elevation (ft MSL)   | 522.06           | 522.41           | 522.22           | 522.36           | 522.36           | 522.23           |
| Well Type                         | Flushmount       | Stick Up         | Stick Up         | Flushmount       | Flushmount       | Stick Up         |
| Casing Type                       | PVC              | PVC              | PVC              | PVC              | PVC              | PVC              |
| Well Diameter (in)                | 2                | 2                | 2                | 2                | 2                | 2                |
| Total Depth (ft)                  | 53.5             | 26.99            | 58               | 30               | 56               | 58               |
| Casing Length (ft)                | 43.5             | 28.5             | 51               | 20               | 51               | 51               |
| Screen Length (ft)                | 10               | 10               | 10               | 10               | 5                | 10               |

| Monitoring Well                   | TMW-6D           | TMW-7D           | TMW-8D           | TMW-9D           | TMW-11S         | TMW-12D          |
|-----------------------------------|------------------|------------------|------------------|------------------|-----------------|------------------|
| WVDEP Permit #                    | WV-00226-0016-02 | WV-00226-0019-02 | WV-00226-0020-02 | WV-00226-0021-02 | WV00055-0001-05 | WV-00271-0017-09 |
| Date of Install                   | 6/20/2002        | 6/24/2002        | 6/25/2002        | 6/26/2002        | 1/12/2004       | 7/8/2009         |
| Driller                           | Triad            | Triad            | Triad            | Triad            | HC Nutting      | Enviroprobe      |
| Borehole Diameter (in)            | 6                | 6                | 6                | 6                | 6               | 11               |
| Latitude                          | 38 25 22 .4      | 38 25 29 .7      | 38 25 26 .9      | 38 25 31 .0      | 38 25 21 .1     | 38 25 32 .0      |
| Longitude                         | 82 24 26 .2      | 82 24 32 .8      | 82 24 40 .2      | 82 25 01 .6      | 82 24 50 .7     | 82 24 55 .0      |
| Top of Casing Elev (ft MSL)       | 549.70           | 550.69           | 557.79           | 548.48           | 554.99          | 545.79           |
| Top of Screen Elevation (ft MSL)  | 502.70           | 506.19           | 506.29           | 500.98           | 530.99          | 501.29           |
| Bottom of Well Elevation (ft MSL) | 495.70           | 499.19           | 499.29           | 493.98           | 519.99          | 491.29           |
| Ground Water Elevation (ft MSL)   | 522.30           | 522.17           | 522.27           | 521.96           | 526.33          | 523.56           |
| Well Type                         | Stick Up         | Stick Up         | Stick Up         | Stick Up         | Stick Up        | Flushmount       |
| Casing Type                       | PVC              | PVC              | PVC              | PVC              | PVC             | PVC              |
| Well Diameter (in)                | 2                | 2                | 2                | 2                | 2               | 4                |
| Total Depth (ft)                  | 54               | 51.5             | 58.5             | 54.5             | 35              | 54.5             |
| Casing Length (ft)                | 47               | 44.5             | 51.5             | 47.5             | 25              | 44.5             |
| Screen Length (ft)                | 10               | 10               | 10               | 10               | 10              | 10               |

Notes:

Depth to screen measured from top of casing.

NA = Unable to determine depth to groundwater

bgs = below ground surface

**Table 7**  
**Field Blank Results for Volatile Organic Compounds**  
**RCRA Facility Investigation Phase II**  
Former BASF Huntington Works Facility, Huntington, West Virginia

| Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Unit: | FB-070909<br>A9G100171001<br>07/09/2009<br>ug/L |    |    | FB-071009<br>A9G110141001<br>07/10/2009<br>ug/L |    |    | FB-071309<br>A9G150161001<br>07/13/2009<br>ug/L |    |    | FB-071409<br>A9G150150001<br>07/14/2009<br>ug/L |    |    | FB-071509<br>A9G160162001<br>07/15/2009<br>ug/L |    |    |
|--------------------------------------------------------------|-------------------------------------------------|----|----|-------------------------------------------------|----|----|-------------------------------------------------|----|----|-------------------------------------------------|----|----|-------------------------------------------------|----|----|
| Chemical Name                                                | Result                                          | LQ | DV | Result                                          | LQ | DV | Result                                          | LQ | DV | Result                                          | LQ | DV | Result                                          | LQ | DV |
| 1,1,1,2-Tetrachloroethane                                    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| 1,1,1-Trichloroethane                                        | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| 1,1,2,2-Tetrachloroethane                                    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| 1,1,2-Trichloroethane                                        | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| 1,1-Dichloroethane                                           | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| 1,1-Dichloroethene                                           | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| 1,2,3-Trichloropropane                                       | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| 1,2-Dibromo-3-chloropropane                                  | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    |
| 1,2-Dibromoethane (EDB)                                      | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| 1,2-Dichloroethane                                           | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| 1,2-Dichloropropane                                          | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| 1,4-Dioxane                                                  | 50 U                                            |    | R  | 50 U                                            |    | R  | 50 U                                            |    | R  | 50 U                                            |    | R  | 50 U                                            |    | R  |
| 2-Butanone (MEK)                                             | 10 U                                            |    |    | 10 U                                            |    |    | 10 U                                            |    |    | 0.67                                            | J  |    | 10 U                                            |    |    |
| 2-Hexanone                                                   | 10 U                                            |    |    | 10 U                                            |    |    | 10 U                                            |    |    | 10 U                                            |    |    | 10 U                                            |    |    |
| 4-Methyl-2-pentanone (MIBK)                                  | 10 U                                            |    |    | 10 U                                            |    |    | 10 U                                            |    |    | 10 U                                            |    |    | 10 U                                            |    |    |
| Acetone                                                      | 1.2                                             | J  |    | 10 U                                            |    |    | 10 U                                            |    |    | 1.2                                             | J  |    | 10 U                                            |    |    |
| Acetonitrile                                                 | 20 U                                            |    | R  | 20 U                                            |    | R  | 20 U                                            |    | R  | 20 U                                            |    | R  | 20 U                                            |    | R  |
| Acrolein                                                     | 20 U                                            |    | R  | 20 U                                            |    | R  | 20 U                                            |    | R  | 20 U                                            |    | R  | 20 U                                            |    | R  |
| Acrylonitrile                                                | 20 U                                            |    |    | 20 U                                            |    |    | 20 U                                            |    |    | 20 U                                            |    |    | 20 U                                            |    |    |
| Allyl chloride                                               | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    |
| Benzene                                                      | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Bromodichloromethane                                         | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Bromoform                                                    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Bromomethane                                                 | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Carbon disulfide                                             | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 0.54                                            | J  | J  | 1 U                                             |    |    |
| Carbon tetrachloride                                         | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Chlorobenzene                                                | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Chloroethane                                                 | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Chloroform                                                   | 0.38                                            | J  |    | 0.4                                             | J  |    | 0.28                                            | J  |    | 0.28                                            | J  |    | 0.26                                            | J  |    |
| Chloromethane                                                | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Chloroprene                                                  | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    |
| cis-1,3-Dichloropropene                                      | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Dibromochloromethane                                         | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Dibromomethane                                               | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Dichlorodifluoromethane                                      | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Ethyl methacrylate                                           | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Ethylbenzene                                                 | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Iodomethane                                                  | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Isobutyl alcohol                                             | 50 U                                            |    | R  | 50 U                                            |    | R  | 50 U                                            |    | R  | 50 U                                            |    | R  | 50 U                                            |    | R  |
| Methacrylonitrile                                            | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    |
| Methyl methacrylate                                          | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    |
| Methylene chloride                                           | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Propionitrile                                                | 4 U                                             |    | R  | 4 U                                             |    | R  | 4 U                                             |    | R  | 4 U                                             |    | R  | 4 U                                             |    | R  |
| Styrene                                                      | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Tetrachloroethene                                            | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Toluene                                                      | 0.37                                            | J  |    | 0.49                                            | J  |    | 1                                               |    |    | 0.94                                            | J  |    | 0.96                                            | J  |    |
| trans-1,2-Dichloroethene                                     | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| trans-1,3-Dichloropropene                                    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| trans-1,4-Dichloro-2-butene                                  | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Trichloroethene                                              | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Trichlorofluoromethane                                       | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Vinyl acetate                                                | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    | 2 U                                             |    |    |
| Vinyl chloride                                               | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    | 1 U                                             |    |    |
| Xylenes (total)                                              | 2 U                                             |    |    | 2 U                                             |    |    | 0.54                                            | J  |    | 0.35                                            | J  |    | 0.59                                            | J  |    |

**Laboratory Data Qualifiers**

U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

**Data Validation Qualifiers**

B - Not detected substantially above the level reported in the laboratory or field blanks  
R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample. Supporting data is necessary to confirm the result.  
J - Analyte is present. Reported value may not be accurate or precise  
L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.

**Table 7**  
**Field Blank Results for Volatile Organic Compounds**  
**RCRA Facility Investigation Phase II**  
Former BASF Huntington Works Facility, Huntington, West Virginia

|                             |              |    |    |              |    |    |              |    |    |
|-----------------------------|--------------|----|----|--------------|----|----|--------------|----|----|
| Sample ID:                  | FB-072209    |    |    | FB-072309    |    |    | FB-072409    |    |    |
| Laboratory Sample ID:       | A9G230196002 |    |    | A9G240125006 |    |    | A9G250133004 |    |    |
| Sample Date:                | 07/22/2009   |    |    | 07/23/2009   |    |    | 07/24/2009   |    |    |
| Unit:                       | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    |
| Chemical Name               | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV |
| 1,1,1,2-Tetrachloroethane   | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,1,1-Trichloroethane       | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,1,2,2-Tetrachloroethane   | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,1,2-Trichloroethane       | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,1-Dichloroethane          | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,1-Dichloroethene          | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,2,3-Trichloropropane      | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,2-Dibromo-3-chloropropane | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 1,2-Dibromoethane (EDB)     | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,2-Dichloroethane          | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,2-Dichloropropane         | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,4-Dioxane                 | 50           | U  | R  | 50           | U  | R  | 50           | U  | R  |
| 2-Butanone (MEK)            | 10           | U  |    | 0.73         | J  |    | 10           | U  |    |
| 2-Hexanone                  | 10           | U  |    | 10           | U  |    | 10           | U  |    |
| 4-Methyl-2-pentanone (MIBK) | 10           | U  |    | 10           | U  |    | 10           | U  |    |
| Acetone                     | 10           | U  |    | 2.1          | J  | B  | 10           | U  |    |
| Acetonitrile                | 20           | U  |    | 20           | U  | R  | 20           | U  |    |
| Acrolein                    | 20           | U  |    | 20           | U  | R  | 20           | U  |    |
| Acrylonitrile               | 20           | U  |    | 20           | U  |    | 20           | U  |    |
| Allyl chloride              | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Benzene                     | 0.35         | J  |    | 1            | U  |    | 0.33         | J  |    |
| Bromodichloromethane        | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Bromoform                   | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Bromomethane                | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Carbon disulfide            | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Carbon tetrachloride        | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Chlorobenzene               | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Chloroethane                | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Chloroform                  | 0.22         | J  |    | 0.19         | J  |    | 0.2          | J  |    |
| Chloromethane               | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Chloroprene                 | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| cis-1,3-Dichloropropene     | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Dibromochloromethane        | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Dibromomethane              | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Dichlorodifluoromethane     | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Ethyl methacrylate          | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Ethylbenzene                | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Iodomethane                 | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Isobutyl alcohol            | 50           | U  | R  | 50           | U  | R  | 13           | JB | BL |
| Methacrylonitrile           | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Methyl methacrylate         | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Methylene chloride          | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Propionitrile               | 4            | U  |    | 4            | U  | R  | 4            | U  |    |
| Styrene                     | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Tetrachloroethene           | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Toluene                     | 1.1          |    |    | 0.98         | J  |    | 0.72         | J  |    |
| trans-1,2-Dichloroethene    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| trans-1,3-Dichloropropene   | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| trans-1,4-Dichloro-2-butene | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Trichloroethene             | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Trichlorofluoromethane      | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Vinyl acetate               | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Vinyl chloride              | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Xylenes (total)             | 0.58         | J  |    | 0.51         | J  |    | 2            | U  |    |

Laboratory Data Qualifiers

U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers

B - Not detected substantially above the level reported in the laboratory or field blanks  
R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample. Supporting data is necessary to confirm the result.  
J - Analyte is present. Reported value may not be accurate or precise  
L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.

**Table 8**  
**Field Blank Results for Semi-Volatile Organic Compounds**  
RCRA Facility Investigation Phase II  
Former Huntington Works Facility, Huntington, West Virginia

| Sample ID:                     | FB-070909    |    |    | FB-071009    |    |    | FB-071309    |    |    | FB-071409    |    |    | FB-071509    |    |    |
|--------------------------------|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|
| Laboratory Sample ID:          | A9G100171001 |    |    | A9G110141001 |    |    | A9G150161001 |    |    | A9G150150001 |    |    | A9G160162001 |    |    |
| Sample Date:                   | 07/09/2009   |    |    | 07/10/2009   |    |    | 07/13/2009   |    |    | 07/14/2009   |    |    | 07/15/2009   |    |    |
| Unit:                          | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    |
| Chemical Name                  | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV |
| 1,2,4,5-Tetrachlorobenzene     | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,2,4-Trichlorobenzene         | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,2-Dichlorobenzene            | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,2-Diphenylhydrazine          | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,3,5-Trinitrobenzene          | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| 1,3-Dichlorobenzene            | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,3-Dinitrobenzene             | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 1,4-Dichlorobenzene            | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,4-Naphthoquinone             | 50           | U  |    | 50           | U  |    | 50           | U  |    | 50           | U  |    | 50           | U  |    |
| 1-Naphthylamine                | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 2,3,4,6-Tetrachlorophenol      | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    |
| 2,4,5-Trichlorophenol          | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| 2,4,6-Trichlorophenol          | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| 2,4-Dichlorophenol             | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 2,4-Dimethylphenol             | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 2,4-Dinitrophenol              | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| 2,4-Dinitrotoluene             | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| 2,6-Dichlorophenol             | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| 2,6-Dinitrotoluene             | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| 2-Acetylaminofluorene          | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    |
| 2-Chloronaphthalene            | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 2-Chlorophenol                 | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 2-Methylnaphthalene            | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| 2-Methylphenol                 | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 2-Naphthylamine                | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 2-Nitroaniline                 | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 2-Nitrophenol                  | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 2-Picoline                     | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| 2-sec-Butyl-4,6-dinitrophenol  | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 3,3'-Dichlorobenzidine         | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| 3,3'-Dimethoxybenzidine        | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    |
| 3,3'-Dimethylbenzidine         | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| 3-Methylcholanthrene           | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| 3-Methylphenol                 | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 3-Nitroaniline                 | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 4,6-Dinitro-2-methylphenol     | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| 4-Aminobiphenyl                | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| 4-Bromophenyl phenyl ether     | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 4-Chloro-3-methylphenol        | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 4-Chloroaniline                | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 4-Chlorophenyl phenyl ether    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 4-Methylphenol                 | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 4-Nitroaniline                 | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 4-Nitrophenol                  | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| 4-Nitroquinoline-1-oxide       | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| 5-Nitro-o-toluidine            | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 7,12-Dimethylbenz(a)anthracene | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| a,a-Dimethylphenethylamine     | 50           | U  |    | 50           | U  |    | 50           | U  |    | 50           | U  |    | 50           | U  |    |
| Acenaphthene                   | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |

**Laboratory Data Qualifiers**

U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

**Data Validation Qualifiers**

B - Not detected substantially above the level reported in the laboratory or field blanks

**Table 8**  
**Field Blank Results for Semi-Volatile Organic Compounds**  
RCRA Facility Investigation Phase II  
Former Huntington Works Facility, Huntington, West Virginia

| Sample ID:                        | FB-070909    |    |    | FB-071009    |    |    | FB-071309    |    |    | FB-071409    |    |    | FB-071509    |    |    |
|-----------------------------------|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|
| Laboratory Sample ID:             | A9G100171001 |    |    | A9G110141001 |    |    | A9G150161001 |    |    | A9G150150001 |    |    | A9G160162001 |    |    |
| Sample Date:                      | 07/09/2009   |    |    | 07/10/2009   |    |    | 07/13/2009   |    |    | 07/14/2009   |    |    | 07/15/2009   |    |    |
| Unit:                             | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    |
| Chemical Name                     | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV |
| Acenaphthylene                    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Acetophenone                      | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Aniline                           | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| Anthracene                        | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Aramite                           | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| Benzidine                         | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| Benzo(a)anthracene                | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Benzo(a)pyrene                    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Benzo(b)fluoranthene              | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Benzo(ghi)perylene                | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Benzo(k)fluoranthene              | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Benzyl alcohol                    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| bis(2-Chloro-1-methylethyl) ether | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| bis(2-Chloroethoxy)methane        | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| bis(2-Chloroethyl) ether          | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| bis(2-Ethylhexyl) phthalate       | 0.96         | JB | B  | 1.1          | JB | B  | 2            | U  |    | 1.9          | J  |    | 2            | U  |    |
| Butyl benzyl phthalate            | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Chlorobenzilate                   | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Chrysene                          | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Diallate                          | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    |
| Dibenz(a,h)anthracene             | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Dibenzofuran                      | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Diethyl phthalate                 | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Dimethoate                        | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Dimethyl phthalate                | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Di-n-butyl phthalate              | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Di-n-octyl phthalate              | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Diphenylamine                     | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Disulfoton                        | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Ethyl methanesulfonate            | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Famphur                           | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    |
| Fluoranthene                      | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Fluorene                          | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Hexachlorobenzene                 | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Hexachlorobutadiene               | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Hexachlorocyclopentadiene         | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    |
| Hexachloroethane                  | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Hexachloropropene                 | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| Indeno(1,2,3-cd)pyrene            | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Isodrin                           | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Isophorone                        | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Isosafrole                        | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| Methapyrilene                     | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Methyl methanesulfonate           | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Methyl parathion                  | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Naphthalene                       | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Nitrobenzene                      | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| N-Nitrosodiethylamine             | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| N-Nitrosodimethylamine            | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |

**Laboratory Data Qualifiers**

U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

**Data Validation Qualifiers**

B - Not detected substantially above the level reported in the laboratory or field blanks

**Table 8**  
**Field Blank Results for Semi-Volatile Organic Compounds**  
 RCRA Facility Investigation Phase II  
 Former Huntington Works Facility, Huntington, West Virginia

| Sample ID:                      | FB-070909    |    |    | FB-071009    |    |    | FB-071309    |    |    | FB-071409    |    |    | FB-071509    |    |    |
|---------------------------------|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|
| Laboratory Sample ID:           | A9G100171001 |    |    | A9G110141001 |    |    | A9G150161001 |    |    | A9G150150001 |    |    | A9G160162001 |    |    |
| Sample Date:                    | 07/09/2009   |    |    | 07/10/2009   |    |    | 07/13/2009   |    |    | 07/14/2009   |    |    | 07/15/2009   |    |    |
| Unit:                           | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    |
| Chemical Name                   | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV |
| N-Nitrosodi-n-butylamine        | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| N-Nitrosodi-n-propylamine       | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| N-Nitrosodiphenylamine          | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| N-Nitrosomethylethylamine       | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| N-Nitrosomorpholine             | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| N-Nitrosopiperidine             | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| N-Nitrosopyrrolidine            | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| O,O,O-Triethyl phosphorothioate | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| o-Toluidine                     | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Parathion                       | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| p-Dimethylaminoazobenzene       | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Pentachlorobenzene              | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Pentachloroethane               | 20           | U  |    | 20           | U  |    | 20           | U  |    | 20           | U  |    | 20           | U  |    |
| Pentachloronitrobenzene         | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Pentachlorophenol               | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| Phenacetin                      | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Phenanthrene                    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Phenol                          | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Phorate                         | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| p-Phenylene diamine             | 40           | U  |    | 40           | U  |    | 40           | U  |    | 40           | U  |    | 40           | U  |    |
| Pronamide                       | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Pyrene                          | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Pyridine                        | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Safrole                         | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Tetraethyldithiopyrophosphate   | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| Thionazin                       | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |

**Laboratory Data Qualifiers**

U - Target analyte not detected above listed Reporting Limit

J - Estimated result. Result is less than Reporting Limit

B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

**Data Validation Qualifiers**

B - Not detected substantially above the level reported in the laboratory or field blanks



**Table 8**  
**Field Blank Results for Semi-Volatile Organic Compounds**  
RCRA Facility Investigation Phase II  
Former Huntington Works Facility, Huntington, West Virginia

|                                |              |    |    |              |    |    |              |    |    |
|--------------------------------|--------------|----|----|--------------|----|----|--------------|----|----|
| Sample ID:                     | FB-072209    |    |    | FB-072309    |    |    | FB-072409    |    |    |
| Laboratory Sample ID:          | A9G230196002 |    |    | A9G240125006 |    |    | A9G250133004 |    |    |
| Sample Date:                   | 07/22/2009   |    |    | 07/23/2009   |    |    | 07/24/2009   |    |    |
| Unit:                          | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    |
| Chemical Name                  | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV |
| 1,2,4,5-Tetrachlorobenzene     | 1 U          |    |    | 1 U          |    |    | 1 U          |    |    |
| 1,2,4-Trichlorobenzene         | 1 U          |    |    | 1 U          |    |    | 1 U          |    |    |
| 1,2-Dichlorobenzene            | 1 U          |    |    | 1 U          |    |    | 1 U          |    |    |
| 1,2-Diphenylhydrazine          | 1 U          |    |    | 1 U          |    |    | 1 U          |    |    |
| 1,3,5-Trinitrobenzene          | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| 1,3-Dichlorobenzene            | 1 U          |    |    | 1 U          |    |    | 1 U          |    |    |
| 1,3-Dinitrobenzene             | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| 1,4-Dichlorobenzene            | 1 U          |    |    | 1 U          |    |    | 1 U          |    |    |
| 1,4-Naphthoquinone             | 50 U         |    |    | 50 U         |    |    | 50 U         |    |    |
| 1-Naphthylamine                | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| 2,3,4,6-Tetrachlorophenol      | 10 U         |    |    | 10 U         |    |    | 10 U         |    |    |
| 2,4,5-Trichlorophenol          | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| 2,4,6-Trichlorophenol          | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| 2,4-Dichlorophenol             | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| 2,4-Dimethylphenol             | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| 2,4-Dinitrophenol              | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| 2,4-Dinitrotoluene             | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| 2,6-Dichlorophenol             | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| 2,6-Dinitrotoluene             | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| 2-Acetylaminofluorene          | 10 U         |    |    | 10 U         |    |    | 10 U         |    |    |
| 2-Chloronaphthalene            | 1 U          |    |    | 1 U          |    |    | 1 U          |    |    |
| 2-Chlorophenol                 | 1 U          |    |    | 1 U          |    |    | 1 U          |    |    |
| 2-Methylnaphthalene            | 0.2 U        |    |    | 0.2 U        |    |    | 0.2 U        |    |    |
| 2-Methylphenol                 | 1 U          |    |    | 1 U          |    |    | 1 U          |    |    |
| 2-Naphthylamine                | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| 2-Nitroaniline                 | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| 2-Nitrophenol                  | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| 2-Picoline                     | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| 2-sec-Butyl-4,6-dinitrophenol  | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| 3,3'-Dichlorobenzidine         | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| 3,3'-Dimethoxybenzidine        | 10 U         |    |    | 10 U         |    |    | 10 U         |    |    |
| 3,3'-Dimethylbenzidine         | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| 3-Methylcholanthrene           | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| 3-Methylphenol                 | 1 U          |    |    | 1 U          |    |    | 1 U          |    |    |
| 3-Nitroaniline                 | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| 4,6-Dinitro-2-methylphenol     | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| 4-Aminobiphenyl                | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| 4-Bromophenyl phenyl ether     | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| 4-Chloro-3-methylphenol        | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| 4-Chloroaniline                | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| 4-Chlorophenyl phenyl ether    | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| 4-Methylphenol                 | 1 U          |    |    | 1 U          |    |    | 1 U          |    |    |
| 4-Nitroaniline                 | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| 4-Nitrophenol                  | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| 4-Nitroquinoline-1-oxide       | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| 5-Nitro-o-toluidine            | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| 7,12-Dimethylbenz(a)anthracene | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| a,a-Dimethylphenethylamine     | 50 U         |    |    | 50 U         |    |    | 50 U         |    |    |
| Acenaphthene                   | 0.2 U        |    |    | 0.2 U        |    |    | 0.2 U        |    |    |

**Laboratory Data Qualifiers**

U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

**Data Validation Qualifiers**

B - Not detected substantially above the level reported in the laboratory or field blanks

**Table 8**  
**Field Blank Results for Semi-Volatile Organic Compounds**  
RCRA Facility Investigation Phase II  
Former Huntington Works Facility, Huntington, West Virginia

| Sample ID:                        | FB-072209    |    |    | FB-072309    |    |    | FB-072409    |    |    |
|-----------------------------------|--------------|----|----|--------------|----|----|--------------|----|----|
| Laboratory Sample ID:             | A9G230196002 |    |    | A9G240125006 |    |    | A9G250133004 |    |    |
| Sample Date:                      | 07/22/2009   |    |    | 07/23/2009   |    |    | 07/24/2009   |    |    |
| Unit:                             | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    |
| Chemical Name                     | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV |
| Acenaphthylene                    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Acetophenone                      | 1            | U  |    | 1            | U  |    | 0.51         | J  |    |
| Aniline                           | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| Anthracene                        | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
|                                   | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| Benzidine                         | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| Benzo(a)anthracene                | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Benzo(a)pyrene                    | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Benzo(b)fluoranthene              | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Benzo(ghi)perylene                | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Benzo(k)fluoranthene              | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Benzyl alcohol                    | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| bis(2-Chloro-1-methylethyl) ether | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| bis(2-Chloroethoxy)methane        | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| bis(2-Chloroethyl) ether          | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| bis(2-Ethylhexyl) phthalate       | 1.2          | JB | B  | 4.8          |    |    | 1.2          | JB | B  |
| Butyl benzyl phthalate            | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Chlorobenzilate                   | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Chrysene                          | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Diallate                          | 10           | U  |    | 10           | U  |    | 10           | U  |    |
| Dibenz(a,h)anthracene             | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Dibenzofuran                      | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Diethyl phthalate                 | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Dimethoate                        | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Dimethyl phthalate                | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Di-n-butyl phthalate              | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Di-n-octyl phthalate              | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Diphenylamine                     | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Disulfoton                        | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Ethyl methanesulfonate            | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Famphur                           | 10           | U  |    | 10           | U  |    | 10           | U  |    |
| Fluoranthene                      | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Fluorene                          | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Hexachlorobenzene                 | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Hexachlorobutadiene               | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Hexachlorocyclopentadiene         | 10           | U  |    | 10           | U  |    | 10           | U  |    |
| Hexachloroethane                  | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Hexachloropropene                 | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| Indeno(1,2,3-cd)pyrene            | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Isodrin                           | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Isophorone                        | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Isosafrole                        | 5            | U  |    | 5            | U  |    | 5            | U  |    |
| Methapyrilene                     | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Methyl methanesulfonate           | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Methyl parathion                  | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Naphthalene                       | 0.2          | U  |    | 0.2          | U  |    | 0.2          | U  |    |
| Nitrobenzene                      | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| N-Nitrosodiethylamine             | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| N-Nitrosodimethylamine            | 1            | U  |    | 1            | U  |    | 1            | U  |    |

**Laboratory Data Qualifiers**

U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

**Data Validation Qualifiers**

B - Not detected substantially above the level reported in the laboratory or field blanks

**Table 8**  
**Field Blank Results for Semi-Volatile Organic Compounds**  
 RCRA Facility Investigation Phase II  
 Former Huntington Works Facility, Huntington, West Virginia

|                                 |              |    |    |              |    |    |              |    |    |
|---------------------------------|--------------|----|----|--------------|----|----|--------------|----|----|
| Sample ID:                      | FB-072209    |    |    | FB-072309    |    |    | FB-072409    |    |    |
| Laboratory Sample ID:           | A9G230196002 |    |    | A9G240125006 |    |    | A9G250133004 |    |    |
| Sample Date:                    | 07/22/2009   |    |    | 07/23/2009   |    |    | 07/24/2009   |    |    |
| Unit:                           | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    |
| Chemical Name                   | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV |
| N-Nitrosodi-n-butylamine        | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| N-Nitrosodi-n-propylamine       | 1 U          |    |    | 1 U          |    |    | 1 U          |    |    |
| N-Nitrosodiphenylamine          | 1 U          |    |    | 1 U          |    |    | 1 U          |    |    |
| N-Nitrosomethylethylamine       | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| N-Nitrosomorpholine             | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| N-Nitrosopiperidine             | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| N-Nitrosopyrrolidine            | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| O,O,O-Triethyl phosphorothioate | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| o-Toluidine                     | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| Parathion                       | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| p-Dimethylaminoazobenzene       | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| Pentachlorobenzene              | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| Pentachloroethane               | 20 U         |    |    | 20 U         |    |    | 20 U         |    |    |
| Pentachloronitrobenzene         | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| Pentachlorophenol               | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| Phenacetin                      | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| Phenanthrene                    | 0.2 U        |    |    | 0.2 U        |    |    | 0.2 U        |    |    |
| Phenol                          | 1 U          |    |    | 1 U          |    |    | 1 U          |    |    |
| Phorate                         | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| p-Phenylene diamine             | 40 U         |    |    | 40 U         |    |    | 40 U         |    |    |
| Pronamide                       | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| Pyrene                          | 0.2 U        |    |    | 0.2 U        |    |    | 0.2 U        |    |    |
| Pyridine                        | 1 U          |    |    | 1 U          |    |    | 1            | B  | B  |
| Safrole                         | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |
| Tetraethyldithiopyrophosphate   | 5 U          |    |    | 5 U          |    |    | 5 U          |    |    |
| Thionazin                       | 2 U          |    |    | 2 U          |    |    | 2 U          |    |    |

**Laboratory Data Qualifiers**

U - Target analyte not detected above listed Reporting Limit  
 J - Estimated result. Result is less than Reporting Limit  
 B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

**Data Validation Qualifiers**

B - Not detected substantially above the level reported in the laboratory or field blanks

**Table 9**  
**Field Blank Results for PCBs**  
 RCRA Facility Investigation Phase II  
 Former Huntington Works, Facility, Huntington, West Virginia

|                       |              |    |    |              |    |    |              |    |    |              |    |    |              |    |    |
|-----------------------|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|
| Sample ID:            | FB-070909    |    |    | FB-071009    |    |    | FB-071309    |    |    | FB-071409    |    |    | FB-071509    |    |    |
| Laboratory Sample ID: | A9G100171001 |    |    | A9G110141001 |    |    | A9G150161001 |    |    | A9G150150001 |    |    | A9G160162001 |    |    |
| Sample Date:          | 07/10/2009   |    |    | 07/10/2009   |    |    | 07/13/2009   |    |    | 07/14/2009   |    |    | 07/15/2009   |    |    |
| Unit:                 | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    |
| Chemical Name         | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV |
| Aroclor 1016          | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Aroclor 1221          | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Aroclor 1232          | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Aroclor 1242          | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Aroclor 1248          | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Aroclor 1254          | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Aroclor 1260          | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |

Laboratory Data Qualifiers

U - Target analyte not detected above listed Reporting Limit

J - Estimated result. Result is less than Reporting Limit

B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

**Table 10**  
**Field Blank Results for Metals**  
RCRA Facility Investigation Phase II  
Former Huntington Works Facility, Huntington, West Virginia

|                       |              |              |              |              |              |              |              |              |
|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Sample ID:            | FB-070909    | FB-071009    | FB-071309    | FB-071409    | FB-071509    | FB-072209    | FB-072309    | FB-072409    |
| Laboratory Sample ID: | A9G100171001 | A9G110141001 | A9G150161001 | A9G150150001 | A9G160162001 | A9G230196002 | A9G240125006 | A9G250133004 |
| Sample Date:          | 7/10/2009    | 07/10/2009   | 07/13/2009   | 07/14/2009   | 07/15/2009   | 07/22/2009   | 07/23/2009   | 07/24/2009   |
| Unit of Measure       | ug/L         | ug/L         | ug/L         | ug/L         | ug/L         | ug/L         | ug/L         | ug/L         |
| Chemical Name         | Result LQ DV | Result LQ DV | Result LQ DV | Result LQ DV | Result LQ DV | Result LQ DV | Result LQ DV | Result LQ DV |
| Antimony              | 2 U          | 2 U          | 2 U          | 2 U          | 2 U          | 0.19 J       | 2 U          | 2 U          |
| Arsenic               | 5 U          | 5 U          | 5 U          | 0.44 J       | 5 U          | 5 U          | 5 U          | 5 U          |
| Barium                | 1 U          | 5.5 B B      | 1 U          | 1 U          | 0.49 JB B    | 1 U          | 0.23 JB B    | 1 U          |
| Beryllium             | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          |
| Cadmium               | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          |
| Chromium              | 2 U          | 2 U          | 2 U          | 2 U          | 2 U          | 2 U          | 0.97 J       | 2 U          |
| Cobalt                | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          |
| Copper                | 2 U          | 2 U          | 2 U          | 2 U          | 2 U          | 2 U          | 2 U          | 2 U          |
| Lead                  | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          |
| Mercury               | 0.2 U        | 0.2 U        | 0.2 U        | 0.2 U        | 0.2 U        | 0.2 U        | 0.2 U        | 0.2 U        |
| Nickel                | 2 U          | 2 U          | 2 U          | 2 U          | 2 U          | 2 U          | 2 U          | 2 U          |
| Selenium              | 5 U          | 5 U          | 5 U          | 5 U          | 5 U          | 5 U          | 5 U          | 5 U          |
| Silver                | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          |
| Thallium              | 1 U          | 0.17 J B     | 1 U          | 1 U          | 1 U          | 1 U          | 1 U          | 0.15 J       |
| Tin                   | 50 U         | 50 U         | 50 U         | 50 U         | 50 U         | 50 U         | 50 U         | 50 U         |
| Vanadium              | 20 U         | 20 U         | 20 U         | 20 U         | 20 U         | 20 U         | 20 U         | 20 U         |
| Zinc                  | 4.7 JB B     | 7.7 JB B     | 20 U         | 20 U         | 7.9 JB B     | 4.2 JB BK    | 3.7 JB BK    | 20 U         |

**Laboratory Data Qualifiers**

U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

**Data Validation Qualifiers**

B - Not detected substantially above the level reported in the laboratory or field blanks  
R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample. Supporting data is necessary to confirm the result.  
K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.

**Table 11**  
**Trip Blank Results for Volatile Organic Compounds**  
RCRA Facility Investigation Phase II  
Former Huntington Works Facility, Huntington, West Virginia

|                             |              |    |    |              |    |    |              |    |    |              |    |    |              |    |    |              |    |    |              |    |    |
|-----------------------------|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|
| Sample ID:                  | TB-070909    |    |    | TB-071009    |    |    | TB-071309    |    |    | TB-071409    |    |    | TB-072209    |    |    | TB-072309    |    |    | TB-072409    |    |    |
| Laboratory Sample ID:       | A9G100171002 |    |    | A9G110141002 |    |    | A9G150161002 |    |    | A9G150150002 |    |    | A9G230196004 |    |    | A9G240125008 |    |    | A9G250133006 |    |    |
| Sample Date:                | 07/10/2009   |    |    | 07/10/2009   |    |    | 07/13/2009   |    |    | 07/14/2009   |    |    | 07/22/2009   |    |    | 07/23/2009   |    |    | 07/24/2009   |    |    |
| Unit:                       | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    | ug/L         |    |    |
| Chemical Name               | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV | Result       | LQ | DV |
| 1,1,1,2-Tetrachloroethane   | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,1,1-Trichloroethane       | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,1,2,2-Tetrachloroethane   | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,1,2-Trichloroethane       | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,1-Dichloroethane          | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,1-Dichloroethene          | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,2,3-Trichloropropane      | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,2-Dibromo-3-chloropropane | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| 1,2-Dibromoethane (EDB)     | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,2-Dichloroethane          | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,2-Dichloropropane         | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| 1,4-Dioxane                 | 50           | U  | R  | 50           | U  | R  | 50           | U  | R  | 50           | U  | R  | 50           | U  | R  | 50           | U  | R  | 50           | U  | R  |
| 2-Butanone (MEK)            | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    |
| 2-Hexanone                  | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    |
| 4-Methyl-2-pentanone (MIBK) | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    | 10           | U  |    |
| Acetone                     | 10           | U  |    | 10           | U  |    | 10           | U  |    | 1.1          | J  |    | 10           | U  |    | 2.5          | J  |    | 10           | U  |    |
| Acetonitrile                | 20           | U  | R  | 20           | U  | R  | 20           | U  | R  | 20           | U  | R  | 20           | U  |    | 20           | U  | R  | 20           | U  |    |
| Acrolein                    | 20           | U  | R  | 20           | U  | R  | 20           | U  | R  | 20           | U  | R  | 20           | U  |    | 20           | U  | R  | 20           | U  |    |
| Acrylonitrile               | 20           | U  |    | 20           | U  |    | 20           | U  |    | 20           | U  |    | 20           | U  |    | 20           | U  |    | 20           | U  |    |
| Allyl chloride              | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Benzene                     | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Bromodichloromethane        | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Bromoform                   | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Bromomethane                | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Carbon disulfide            | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Carbon tetrachloride        | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Chlorobenzene               | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Chloroethane                | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Chloroform                  | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Chloromethane               | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Chloroprene                 | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| cis-1,3-Dichloropropene     | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Dibromochloromethane        | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Dibromomethane              | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Dichlorodifluoromethane     | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Ethyl methacrylate          | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Ethylbenzene                | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Iodomethane                 | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Isobutyl alcohol            | 50           | U  | R  | 50           | U  | R  | 50           | U  | R  | 50           | U  | R  | 50           | U  | R  | 11           | JB | BL | 50           | U  | R  |
| Methacrylonitrile           | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Methyl methacrylate         | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Methylene chloride          | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Propionitrile               | 4            | U  | R  | 4            | U  | R  | 4            | U  | R  | 4            | U  | R  | 4            | U  |    | 4            | U  | R  | 4            | U  |    |
| Styrene                     | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Tetrachloroethene           | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Toluene                     | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| trans-1,2-Dichloroethene    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| trans-1,3-Dichloropropene   | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| trans-1,4-Dichloro-2-butene | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Trichloroethene             | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Trichlorofluoromethane      | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Vinyl acetate               | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |
| Vinyl chloride              | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    | 1            | U  |    |
| Xylenes (total)             | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    | 2            | U  |    |

**Laboratory Data Qualifiers**

U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

**Data Validation Qualifiers**

B - Not detected substantially above the level reported in the laboratory or field blanks  
R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample. Supporting data is necessary to confirm the result.  
L - Analyte is present. Reported value may be biased low. Actual value is expected higher

**TABLE 12**  
**Performance Evaluation Soil Sample Results for Volatile Organic Compounds**  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works Facility, Huntington, West Virginia

| Sample ID:<br>Laboratory Sample ID:<br>Sample Date: |            | AOC2-22-10.0<br>A9G200110003<br>07/13/2009<br>Result | ERA Certified<br>Value Lot No.<br>D062-924<br>Result | Performance<br>Acceptance<br>(95% Confidence)<br>Range | Analysis within the<br>95% Confidence<br>Level |
|-----------------------------------------------------|------------|------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------|------------------------------------------------|
| Chemical Name                                       | CAS RN     | mg/Kg                                                | mg/Kg                                                | mg/Kg                                                  | Yes/No                                         |
| 1,1,1,2-Tetrachloroethane                           | 630-20-6   | 4.6                                                  | 5.68                                                 | 4.56 - 7.04                                            | Yes                                            |
| 1,1,1-Trichloroethane                               | 71-55-6    | 8.4                                                  | 9.67                                                 | 7.4 - 12.1                                             | Yes                                            |
| 1,1,2,2-Tetrachloroethane                           | 79-34-5    | 0.2 U                                                | < 1                                                  |                                                        | Yes                                            |
| 1,1,2-Trichloroethane                               | 79-00-5    | 6.5                                                  | 6.09                                                 | 4.88 - 7.31                                            | Yes                                            |
| 1,1-Dichloroethane                                  | 75-34-3    | 0.2 U                                                | < 1                                                  |                                                        | Yes                                            |
| 1,1-Dichloroethene                                  | 75-35-4    | 1.1                                                  | < 1                                                  |                                                        | Yes                                            |
| 1,2,3-Trichloropropane                              | 96-18-4    | 8.3                                                  | 7.41                                                 | 4.45 - 10.0                                            | Yes                                            |
| 1,2,4-Trichlorobenzene                              |            |                                                      | 2.14                                                 | 1.54 - 2.63                                            |                                                |
| 1,2-Dibromo-3-chloropropane                         | 96-12-8    | 0.4 U                                                | < 1                                                  |                                                        | Yes                                            |
| 1,2-Dibromoethane (EDB)                             | 106-93-4   | 2.4                                                  | 2.3                                                  | 1.87 - 2.78                                            | Yes                                            |
| 1,2-Dichlorobenzene                                 |            |                                                      | < 1                                                  |                                                        |                                                |
| 1,2-Dichloroethane                                  | 107-06-2   | 2                                                    | 1.94                                                 | 1.49 - 2.44                                            | Yes                                            |
| 1,2-Dichloropropane                                 | 78-87-5    | 8.7                                                  | 8.6                                                  | 7.07 - 10.2                                            | Yes                                            |
| 1,3-Dichlorobenzene                                 |            |                                                      | 8.94                                                 | 6.96 - 11.2                                            |                                                |
| 1,4-Dichlorobenzene                                 |            |                                                      | 9.09                                                 | 7.16 - 11.4                                            |                                                |
| 2-Butanone (MEK)                                    | 78-93-3    | 0.8 U                                                | <1                                                   |                                                        | Yes                                            |
| 2-Hexanone                                          | 591-78-6   | 20                                                   | 18.1                                                 | 10.6 - 23.7                                            | Yes                                            |
| 4-Methyl-2-pentanone (MIBK)                         | 108-10-1   | 9.3                                                  | 8.99                                                 | 5.43 - 11.6                                            | Yes                                            |
| Acetone                                             | 67-64-1    | 16                                                   | 15.6                                                 | 5.79 - 22.6                                            | Yes                                            |
| Acetonitrile                                        | 75-05-8    | 0.5 U                                                | < 1                                                  |                                                        | Yes                                            |
| Acrolein                                            | 107-02-8   | 4 U                                                  | < 1                                                  |                                                        | Yes                                            |
| Benzene                                             | 71-43-2    | 10                                                   | 9.86                                                 | 7.83 - 11.9                                            | Yes                                            |
| Bromobenzene                                        |            |                                                      | 4.14                                                 | 3.41 - 4.8                                             |                                                |
| Bromodichloromethane                                | 75-27-4    | 3.5                                                  | 4.29                                                 | 3.46 - 5.53                                            | Yes                                            |
| Bromoform                                           | 75-25-2    | 1.5                                                  | 2.27                                                 | 1.59 - 2.97                                            | No                                             |
| Bromomethane                                        | 74-83-9    | 0.2 U                                                | < 1                                                  |                                                        | Yes                                            |
| Carbon disulfide                                    | 75-15-0    | 0.2 U                                                | < 1                                                  |                                                        | Yes                                            |
| Carbon tetrachloride                                | 56-23-5    | 3.2                                                  | 3.91                                                 | 2.72 - 5.08                                            | Yes                                            |
| Chlorobenzene                                       | 108-90-7   | 0.2 U                                                | < 1                                                  |                                                        | Yes                                            |
| Chloroethane                                        | 75-00-3    | 0.4 U                                                | < 1                                                  |                                                        | Yes                                            |
| Chloroform                                          | 67-66-3    | 0.2 U                                                | < 1                                                  |                                                        | Yes                                            |
| Chloromethane                                       | 74-87-3    | 0.2 U                                                | < 1                                                  |                                                        | Yes                                            |
| cis-1,2-Dichloroethene                              |            |                                                      | 3.62                                                 | 3.12 - 4.27                                            |                                                |
| cis-1,3-Dichloropropene                             | 10061-01-5 | 0.2 U                                                | < 1                                                  |                                                        | Yes                                            |
| Dibromochloromethane                                | 124-48-1   | 1.2                                                  | 1.42                                                 | 1.06 - 1.80                                            | Yes                                            |
| Dibromomethane                                      | 74-95-3    | 3.4                                                  | 3.21                                                 | 2.65 - 3.85                                            | Yes                                            |
| Dichlorodifluoromethane                             | 75-71-8    | 0.2 U                                                | < 1                                                  |                                                        | Yes                                            |
| Ethylbenzene                                        | 100-41-4   | 8.9                                                  | 8.32                                                 | 6.61 - 10.3                                            | Yes                                            |
| Hexachlorobutadiene                                 |            |                                                      | 6.53                                                 | 4.88 - 8.75                                            |                                                |
| Hexachloroethane                                    |            |                                                      | 10.5                                                 | 7.15 - 14.2                                            |                                                |
| Isopropylbenzene                                    |            |                                                      | 7.55                                                 | 6.29 - 9.97                                            |                                                |
| Methylene chloride                                  | 75-09-2    | 7.7                                                  | 7.31                                                 | 4.89 - 9.5                                             | Yes                                            |
| Naphthalene                                         |            |                                                      | 5.08                                                 | 3.27 - 6.5                                             |                                                |
| Nitrobenzene                                        |            |                                                      | 8.08                                                 | 1.96 - 10.6                                            |                                                |
| Styrene                                             | 100-42-5   | 5.8                                                  | 5.11                                                 | 4.2 - 6.39                                             | Yes                                            |
| tert-Butyl methyl ether (MTBE)                      |            |                                                      | 6.86                                                 | 4.99 - 8.37                                            |                                                |
| Tetrachloroethene                                   | 127-18-4   | 2.1                                                  | 1.44                                                 | 1.06 - 1.87                                            | No                                             |
| Toluene                                             | 108-88-3   | 4                                                    | 3.73                                                 | 3.01 - 4.48                                            | Yes                                            |
| trans-1,2-Dichloroethene                            | 156-60-5   | 0.2 U                                                | < 1                                                  |                                                        | Yes                                            |
| trans-1,3-Dichloropropene                           | 10061-02-6 | 0.2 U                                                | < 1                                                  |                                                        | Yes                                            |
| Trichloroethene                                     | 79-01-6    | 10                                                   | 8.71                                                 | 6.86 - 10.9                                            | Yes                                            |
| Trichlorofluoromethane                              | 75-69-4    | 0.2 U                                                | < 1                                                  |                                                        | Yes                                            |
| Vinyl acetate                                       | 108-05-4   | 0.4 U                                                | < 1                                                  |                                                        | Yes                                            |
| Vinyl chloride                                      | 75-01-4    | 0.2 U                                                | < 1                                                  |                                                        | Yes                                            |
| m-Xylene                                            |            |                                                      | 3.81                                                 | 3.08 - 4.72                                            |                                                |
| o-Xylene                                            |            |                                                      | 1.74                                                 | 1.41 - 2.16                                            |                                                |
| p-Xylene                                            |            |                                                      | 3.61                                                 | 2.92 - 4.48                                            |                                                |
| Xylenes (total)                                     | 1330-20-7  | 9.8                                                  | 9.16                                                 | 7.41 - 11.4                                            | Yes                                            |

**TABLE 13**  
**Performance Evaluation Soil Sample Results for Semi-Volatile Organic Compounds**  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works Facility, Huntington, West Virginia

| Sample ID:<br>Laboratory Sample ID:<br>Sample Date: |           | AOC2-22-10.0<br>A9G200110004<br>07/13/2009<br>Not Applicable | ERA Certified Value<br>Lot No. D062-924<br>Result | Performance<br>Acceptance<br>(95% Confidence)<br>Range | Analysis within the<br>95% Confidence<br>Level |
|-----------------------------------------------------|-----------|--------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------|------------------------------------------------|
| Chemical Name                                       | CAS RN    | mg/Kg                                                        | mg/Kg                                             | mg/Kg                                                  | Yes/No                                         |
| 1,2-Dichlorobenzene                                 | 95-50-1   | 0.25 U                                                       | < 1                                               |                                                        | Yes                                            |
| 1,3-Dichlorobenzene                                 | 541-73-1  | 3.9                                                          | 12.4                                              | 2.02 - 12.4                                            | Yes                                            |
| 1,4-Dichlorobenzene                                 | 106-46-7  | 2.9                                                          | 8.24                                              | 1.53 - 8.24                                            | Yes                                            |
| 1-Chloronaphthalene                                 |           |                                                              | < 1                                               |                                                        |                                                |
| 2,4-Dichlorophenol                                  | 120-83-2  | 0.75 U                                                       | < 1                                               |                                                        | Yes                                            |
| 2,4-Dimethylphenol                                  | 105-67-9  | 0.75 U                                                       | < 1                                               |                                                        | Yes                                            |
| 2,4-Dinitrophenol                                   | 51-28-5   | 1.6 U                                                        | 8.24                                              | D.L. - 8.24                                            |                                                |
| 2,4-Dinitrotoluene                                  | 121-14-2  | 1 U                                                          | < 1                                               |                                                        | Yes                                            |
| 2,6-Dichlorophenol                                  | 87-65-0   | 1.7                                                          | 4.35                                              | 1.2 - 4.35                                             | Yes                                            |
| 2,6-Dinitrotoluene                                  | 606-20-2  | 1 U                                                          | < 1                                               |                                                        | Yes                                            |
| 2-Chloronaphthalene                                 | 91-58-7   | 0.25 U                                                       | < 1                                               |                                                        | Yes                                            |
| 2-Chlorophenol                                      | 95-57-8   | 2.7                                                          | 6.86                                              | 1.79 - 6.86                                            | Yes                                            |
| 2-Methylnaphthalene                                 | 91-57-6   | 1.7                                                          | 3.09                                              | 1.12 - 3.15                                            | Yes                                            |
| 2-Methylphenol                                      | 95-48-7   | 1.1                                                          | 8.35                                              | 0.786 - 8.35                                           | Yes                                            |
| 2-Nitroaniline                                      | 88-74-4   | 1 U                                                          | < 1                                               |                                                        | Yes                                            |
| 3,3'-Dichlorobenzidine                              | 91-94-1   | 0.5 U                                                        | < 1                                               |                                                        | Yes                                            |
| 3 & 4 - Methylphenol                                |           |                                                              | 11.1                                              | 0.789 - 11.1                                           |                                                |
| 3-Nitroaniline                                      | 99-09-2   | 1 U                                                          | < 1                                               |                                                        | Yes                                            |
| 4,6-Dinitro-2-methylphenol                          | 534-52-1  | 0.54 J                                                       | 13.7                                              | 0.068 - 13.7                                           | Yes                                            |
| 4-Bromophenyl phenyl ether                          | 101-55-3  | 0.25 U                                                       | < 1                                               |                                                        | Yes                                            |
| 4-Chloro-3-methylphenol                             | 59-50-7   | 0.75 U                                                       | < 1                                               |                                                        | Yes                                            |
| 4-Chloroaniline                                     | 106-47-8  | 0.75 U                                                       | < 1                                               |                                                        | Yes                                            |
| 4-Chlorophenyl phenyl ether                         | 7005-72-3 | 7.8                                                          | 13.8                                              | 6.1 - 15.6                                             | Yes                                            |
| 4-Nitroaniline                                      | 100-01-6  | 1 U                                                          | < 1                                               |                                                        | Yes                                            |
| Acenaphthene                                        | 83-32-9   | 2.2                                                          | 4.2                                               | 1.8 - 4.37                                             | Yes                                            |
| Acenaphthylene                                      | 208-96-8  | 1.4                                                          | 2.84                                              | 0.997 - 2.84                                           | Yes                                            |
| Aniline                                             | 62-53-3   | 1.6 U                                                        | < 1                                               |                                                        | Yes                                            |
| Anthracene                                          | 120-12-7  | 4.7                                                          | 8.58                                              | 3.47 - 8.58                                            | Yes                                            |
| Benzidine                                           | 92-87-5   | 1.6 U                                                        | < 1                                               |                                                        | Yes                                            |
| Benzoic acid                                        |           |                                                              | < 1                                               |                                                        |                                                |
| Benzo(a)anthracene                                  | 56-55-3   | 1.9                                                          | 3.49                                              | 1.75 - 3.8                                             | Yes                                            |
| Benzo(a)pyrene                                      | 50-32-8   | 2.2                                                          | 4.16                                              | 1.58 - 4.16                                            | Yes                                            |
| Benzo(b)fluoranthene                                | 205-99-2  | 2.3                                                          | 4.25                                              | 1.98 - 5.06                                            | Yes                                            |
| Benzo(ghi)perylene                                  | 191-24-2  | 0.8                                                          | 1.46                                              | 0.64 - 1.71                                            | Yes                                            |
| Benzo(k)fluoranthene                                | 207-08-9  | 2.6                                                          | 4.16                                              | 1.97 - 4.87                                            | Yes                                            |
| Benzyl alcohol                                      | 100-51-6  | 1.6 U                                                        | < 1                                               |                                                        | Yes                                            |
| bis(2-Chloroethoxy)methane                          | 111-91-1  | 6.2                                                          | 11.8                                              | 4.32 - 12.6                                            | Yes                                            |
| bis(2-Chloroethyl) ether                            | 111-44-4  | 5.2                                                          | 10.8                                              | 2.5 - 10.8                                             | Yes                                            |
| bis(2-Chloroisopropyl) ether                        |           |                                                              | 2.9                                               | 0.884 - 3.13                                           |                                                |
| bis(2-Ethylhexyl) phthalate                         | 117-81-7  | 2.4                                                          | 4.09                                              | 1.7 - 5.03                                             | Yes                                            |
| Butyl benzyl phthalate                              | 85-68-7   | 0.25 U                                                       | < 1                                               |                                                        | Yes                                            |
| Carbazole                                           |           |                                                              | < 1                                               |                                                        |                                                |
| Chrysene                                            | 218-01-9  | 1.6                                                          | 2.61                                              | 1.31 - 3.05                                            | Yes                                            |
| Dibenz(a,h)anthracene                               | 53-70-3   | 0.033 U                                                      | < 1                                               |                                                        | Yes                                            |
| Dibenzofuran                                        | 132-64-9  | 4                                                            | 7.39                                              | 3.22 - 7.91                                            | Yes                                            |
| Diethyl phthalate                                   | 84-66-2   | 0.25 U                                                       | < 1                                               |                                                        | Yes                                            |
| Dimethyl phthalate                                  | 131-11-3  | 0.25 U                                                       | < 1                                               |                                                        | Yes                                            |
| Di-n-butyl phthalate                                | 84-74-2   | 0.25 U                                                       | < 1                                               |                                                        | Yes                                            |
| Di-n-octyl phthalate                                | 117-84-0  | 0.25 U                                                       | < 1                                               |                                                        | Yes                                            |
| Fluoranthene                                        | 206-44-0  | 1.5                                                          | 2.46                                              | 1.2 - 2.78                                             | Yes                                            |
| Fluorene                                            | 86-73-7   | 1.9                                                          | 3.34                                              | 1.54 - 3.61                                            | Yes                                            |
| Hexachlorobenzene                                   | 118-74-1  | 5.5                                                          | 9.74                                              | 4.58 - 10.8                                            | Yes                                            |
| Hexachlorobutadiene                                 | 87-68-3   | 4.2                                                          | 9.65                                              | 2.85 - 9.65                                            | Yes                                            |
| Hexachlorocyclopentadiene                           | 77-47-4   | 1.6 U                                                        | < 1                                               |                                                        | Yes                                            |
| Hexachloroethane                                    | 67-72-1   | 0.25 U                                                       | < 1                                               |                                                        | Yes                                            |
| Indeno(1,2,3-cd)pyrene                              | 193-39-5  | 0.033 U                                                      | < 1                                               |                                                        | Yes                                            |
| Isophorone                                          | 78-59-1   | 2.6                                                          | 5.21                                              | 1.72 - 5.68                                            | Yes                                            |
| Naphthalene                                         | 91-20-3   | 0.033 U                                                      | < 1                                               |                                                        | Yes                                            |
| o-Toluidine                                         | 95-53-4   | 1.6 U                                                        | < 1                                               |                                                        | Yes                                            |



**TABLE 14**  
**Performance Evaluation Soil Sample Results for PCBs and Metals**  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works Facility, Huntington, West Virginia

| Sample ID:<br>Laboratory Sample ID:<br>Sample Date: |            | AOC2-22-10.0<br>A9G200110001<br>07/13/2009 | ERA<br>Certified Value Lot<br>No. D062-924 | Performance<br>Acceptance<br>(95% Confidence)<br>Range | Analysis within the<br>95% Confidence<br>Level |
|-----------------------------------------------------|------------|--------------------------------------------|--------------------------------------------|--------------------------------------------------------|------------------------------------------------|
| Chemical Name                                       | CAS RN     | mg/Kg                                      | mg/Kg                                      | mg/Kg                                                  | Yes/No                                         |
| PCBs                                                |            |                                            |                                            |                                                        |                                                |
| Aroclor 1254                                        | 11097-69-1 | 3.5                                        | 4.7                                        | 1.98 - 5.64                                            | Yes                                            |
| Metals                                              |            |                                            |                                            |                                                        |                                                |
| Antimony                                            | 7440-36-0  | 71.6                                       | 126                                        | 63.3 - 189                                             | Yes                                            |
| Arsenic                                             | 7440-38-2  | 227                                        | 225                                        | 181 - 270                                              | Yes                                            |
| Barium                                              | 7440-39-3  | 565 J                                      | 565                                        | 461 - 669                                              | Yes                                            |
| Beryllium                                           | 7440-41-7  | 154                                        | 162                                        | 134 - 190                                              | Yes                                            |
| Cadmium                                             | 7440-43-9  | 68.9                                       | 69.1                                       | 58.1 - 80.1                                            | Yes                                            |
| Chromium                                            | 7440-47-3  | 121 J                                      | 124                                        | 101 - 147                                              | Yes                                            |
| Cobalt                                              | 7440-48-4  | 113                                        | 115                                        | 95.6 - 135                                             | Yes                                            |
| Copper                                              | 7440-50-8  | 64.4 J                                     | 66.7                                       | 53.9 - 79.5                                            | Yes                                            |
| Lead                                                | 7439-92-1  | 171 J                                      | 223                                        | 183 - 264                                              | No                                             |
| Mercury                                             | 7439-97-6  | 5.1                                        | 5.15                                       | 3.69 - 6.61                                            | Yes                                            |
| Nickel                                              | 7440-02-0  | 165 J                                      | 172                                        | 140 - 204                                              | Yes                                            |
| Selenium                                            | 7782-49-2  | 146                                        | 147                                        | 114 - 180                                              | Yes                                            |
| Silver                                              | 7440-22-4  | 36.3                                       | 35.2                                       | 23.3 - 47.1                                            | Yes                                            |
| Thallium                                            | 7440-28-0  | 130                                        | 173                                        | 140 - 205                                              | No                                             |
| Tin                                                 | 7440-31-5  | 173                                        | 164                                        | 121 - 207                                              | Yes                                            |
| Vanadium                                            | 7440-62-2  | 92.4                                       | 93.9                                       | 72.1 - 116                                             | Yes                                            |
| Zinc                                                | 7440-66-6  | 347 J                                      | 349                                        | 280 - 418                                              | Yes                                            |

**TABLE 15**  
**RFI Phase II Summary of Analytical Methods, Preservation, Sampling Volumes and Holding Times**  
 RCRA Facility Investigaiton Phase II  
 Former BASF Huntington Works Facility, Huntington, West Virginia

| Matrix       | Analytical Group                             | EPA Test Method Series  | Extraction Method | Sampling Equipment     | Minimum Sample Volume <sup>1</sup> | Sample Container <sup>2</sup>              | Sample Preservation             | Holding Time                                     |
|--------------|----------------------------------------------|-------------------------|-------------------|------------------------|------------------------------------|--------------------------------------------|---------------------------------|--------------------------------------------------|
| Soil         | Appendix IX Volatile Organics (VOCs)         | SW-846 Method 8260B     | 5035              | TerraCore Sampling Kit | 5 g                                | 3 - 40 mL glass vials w/ teflon lined cap  | 4°C, MeOH & NaHSO <sub>4</sub>  | extract in the field, 14 days analyze            |
|              | Appendix IX SemiVolatile Organics (SVOCs)    | SW-846 Method 8270C     | 3541              | soil core, scoopula    | 50 g                               | Wide-mouth glass w/ teflon lined cap       | 4°C                             | 14 days extract; 40 days analyze                 |
|              | Appendix IX Polychlorinated Biphenyls (PCBs) | SW-846 Method 8082      | 3541              | soil core, scoopula    | 50 g                               | Wide-mouth glass w/ teflon lined cap       | 4°C                             | 14 days extract; 40 days analyze                 |
|              | Appendix IX Metals                           | SW-846 Method 6020      | 3050              | soil core, scoopula    | 4 oz.                              | Wide-mouth glass w/ teflon lined cap       | 4°C                             | 6 months (Hg = 28 days)                          |
|              | Total Petroleum Hydrocarbons (DRO)           | SW-846 Method 8015B     | 3540 C            | soil core, scoopula    | 4 oz.                              | Wide-mouth glass w/ teflon lined cap       | 4°C                             | 7 days                                           |
|              | Ethylene Glycol                              | SW-846 Method 8015B (M) | 8015A             | soil core, scoopula    | 4 oz.                              | Amber wide-mouth glass w/ teflon lined cap | 4°C                             | 14 days                                          |
|              | pH                                           | SW-846 9045             | Not Applicable    | soil core, scoopula    | 20 g                               | Wide-mouth glass w/ teflon lined cap       | Not Applicable                  | Immediately                                      |
| Ground Water | Appendix IX VOCs                             | SW-846 Method 8260B     | 5030              | dedicated tubing       | 40 mL                              | Glass w/ telfon lined cap                  | 4°C, HCl to pH<2                | 14 days                                          |
|              | Appendix IX SVOCs                            | SW-846 Method 8270C     | 3510              | dedicated tubing       | 1000 mL                            | Amber glass w/ telfon lined cap            | 4°C                             | 7 days to extract; 40 days to analyze            |
|              | Appendix IX Metals                           | SW-846 Method 6020      | 3010              | dedicated tubing       | 1000 mL                            | Plastic w/ telfon lined cap                | 4°C, HNO <sub>3</sub> to pH < 2 | 6 months (Hg = 28 days)                          |
|              | Methane, Ethene, Ethane                      | RSK SOP-175             | Not Applicable    | dedicated tubing       | 40 mL                              | Glass w/ telfon lined cap                  | 4°C, HCl to pH<2                | 14 days                                          |
|              | Chloride, Nitrate, Sulfate                   | EPA Method 300.0        | Not Applicable    | dedicated tubing       | 250 mL                             | Plastic or glass w/ telfon lined cap       | 4°C                             | 28 days (Chloride & Sulfate), 48 hours (Nitrate) |

**Notes**

- 1 Triple volume is required for matrix spike/matrix spike duplicate (MS/MSD) analysis.
- 2 TerraCore VOC Sampling Kits contain 3 40mL Vials, 1 containing 5 mL of methanol (MeOH), 1 containing 5 mL of sodium bisulfate (NaHSO<sub>4</sub>) & 1 containing 5 mL of reagent water.
- 3 The laboratory (TestAmerica) provide contaminant-free sample containers. All sample bottles complied with the standards outlined in the following reference:  
 U.S. EPA (Environmental Protection Agency). December 1992. *Specifications and Guidance for Contaminant-Free Sample Containers*.
- 4 Appendix IX VOCs will also include 1,4-Dioxane and Appendix IX SVOCs will also include benzidine, 1,2-diphenyldrazine and 3,3'-dimethoxybenzidine

**Table 16**  
**RFI Phase II Analytical Parameters and EPA and WVDEP Standards**  
 RCRA Facility Investigation Phase II  
 Former BASF Huntington Works Facility, Huntington, West Virginia

| Chemical Name               | CAS RN   | EPA<br>Industrial Risk<br>Screening Level<br><br>mg/Kg | WVDEP<br>60CSR3 Industrial<br>Soil De Minimis<br>Level<br><br>mg/Kg | EPA<br>Risk-Based<br>Screening Level<br>Protection of<br>Groundwater<br><br>mg/Kg | WVDEP<br>60CSR3 Migration<br>to Ground Water<br>Soil De Minimis<br>Level<br><br>mg/Kg | WVDEP<br>60CSR3 Ground<br>Water De Minimis<br>Level<br><br>ug/L | EPA<br>Groundwater<br>Maximum<br>Contaminant<br>Level<br><br>ug/L | EPA<br>Risk Screening<br>Level for<br>Tapwater<br><br>ug/L |
|-----------------------------|----------|--------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------|
| <b>Volatile Organics</b>    |          |                                                        |                                                                     |                                                                                   |                                                                                       |                                                                 |                                                                   |                                                            |
| 1,1,2,2-Tetrachloroethane   | 79-34-5  | 9.3                                                    | 71                                                                  | 0.000026                                                                          | 0.0031                                                                                | 0.055                                                           | NS                                                                | 0.067                                                      |
| 1,1,1-Trichloroethane       | 71-55-6  | 38,000                                                 | 710                                                                 | 3.2                                                                               | 2.1                                                                                   | 200                                                             | 200                                                               | 9,100                                                      |
| 1,1,1,2-Tetrachloroethane   | 630-20-6 | 2.8                                                    | 9                                                                   | 0.0002                                                                            | 0.0004                                                                                | 0.43                                                            | NS                                                                | 0.52                                                       |
| 1,1,2-Trichloroethane       | 79-00-5  | 5.3                                                    | 19                                                                  | 0.000078                                                                          | 0.035                                                                                 | 5                                                               | 5                                                                 | 0.24                                                       |
| 1,1-Dichloroethane          | 75-34-3  | 17                                                     | 1,600                                                               | 0.00069                                                                           | 5.9                                                                                   | 910                                                             | NS                                                                | 2.4                                                        |
| 1,1-Dichloroethene          | 75-35-4  | 1,100                                                  | 430                                                                 | 0.12                                                                              | 0.059                                                                                 | 7                                                               | 7                                                                 | 340                                                        |
| 1,2,3-Trichloropropane      | 96-18-4  | 0.095                                                  | 11                                                                  | 0.00000031                                                                        | 0.00027                                                                               | 0.034                                                           | NS                                                                | 0.00072                                                    |
| 1,2-Dibromo-3-chloropropane | 96-12-8  | 0.069                                                  | 71                                                                  | 0.00000014                                                                        | 0.001                                                                                 | 0.2                                                             | 0.02                                                              | 0.00032                                                    |
| 1,2-Dibromoethane (EDB)     | 106-93-4 | 0.17                                                   | 0.62                                                                | 0.0000018                                                                         | 0.00026                                                                               | 0.05                                                            | 0.005                                                             | 0.0065                                                     |
| 1,2-Dichloroethane          | 107-06-2 | 2.2                                                    | 7.7                                                                 | 0.000042                                                                          | 0.028                                                                                 | 5                                                               | 5                                                                 | 0.15                                                       |
| 1,2-Dichloropropane         | 78-87-5  | 4.5                                                    | 14                                                                  | 0.00013                                                                           | 0.03                                                                                  | 5                                                               | 5                                                                 | 0.39                                                       |
| 1,4-Dioxane                 | 123-91-1 | 160                                                    | 2,200                                                               | 0.0013                                                                            | 0.026                                                                                 | 6.1                                                             | NS                                                                | 61                                                         |
| 2-Butanone (MEK)            | 78-93-3  | 190,000                                                | 56,000                                                              | 1.5                                                                               | 29                                                                                    | 7000                                                            | NS                                                                | 7,100                                                      |
| 2-Hexanone                  | 591-78-6 | 1,400                                                  | NS                                                                  | 0.011                                                                             | NS                                                                                    | NS                                                              | NS                                                                | 47                                                         |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 53,000                                                 | 8,900                                                               | 0.45                                                                              | 59                                                                                    | 6300                                                            | NS                                                                | 2,000                                                      |
| Acetone                     | 67-64-1  | 630,000                                                | 56,000                                                              | 4.5                                                                               | 22                                                                                    | 5500                                                            | NS                                                                | 22,000                                                     |
| Acetonitrile                | 75-05-8  | 3,700                                                  | 2,000                                                               | 0.026                                                                             | 0.57                                                                                  | 120                                                             | NS                                                                | 130                                                        |
| Acrolein                    | 107-02-8 | 0.65                                                   | 0.31                                                                | 0.0000084                                                                         | 0.0002                                                                                | 0.042                                                           | NS                                                                | 0.042                                                      |
| Acrylonitrile               | 107-13-1 | 1.2                                                    | 5.2                                                                 | 0.0000099                                                                         | 0.00016                                                                               | 0.039                                                           | NS                                                                | 0.045                                                      |
| Allyl chloride              | 107-05-1 | 3.4                                                    | NS                                                                  | 0.00024                                                                           | NS                                                                                    | NS                                                              | NS                                                                | 0.65                                                       |
| Benzene                     | 71-43-2  | 5.4                                                    | 15                                                                  | 0.00021                                                                           | 0.034                                                                                 | 5                                                               | 5                                                                 | 0.41                                                       |
| Bromodichloromethane        | 75-27-4  | 1.4                                                    | 24                                                                  | 0.000032                                                                          | 0.0015                                                                                | 0.18                                                            | NS                                                                | 0.12                                                       |
| Bromoform                   | 75-25-2  | 220                                                    | 3,100                                                               | 0.0023                                                                            | 0.064                                                                                 | 8.5                                                             | NS                                                                | 8.5                                                        |
| Bromomethane                | 74-83-9  | 32                                                     | 13                                                                  | 0.0022                                                                            | 0.042                                                                                 | 8.7                                                             | NS                                                                | 8.7                                                        |
| Carbon disulfide            | 75-15-0  | 3,700                                                  | 470                                                                 | 0.31                                                                              | 8.3                                                                                   | 1000                                                            | NS                                                                | 1,000                                                      |
| Carbon tetrachloride        | 56-23-5  | 1.2                                                    | 5.3                                                                 | 0.000077                                                                          | 0.061                                                                                 | 5                                                               | 5                                                                 | 0.2                                                        |
| Chlorobenzene               | 108-90-7 | 1,400                                                  | 310                                                                 | 0.062                                                                             | 1.3                                                                                   | 100                                                             | 100                                                               | 91                                                         |
| Chloroethane                | 75-00-3  | 61,000                                                 | 65                                                                  | 5.9                                                                               | 0.021                                                                                 | 3.9                                                             | NS                                                                | 21,000                                                     |
| Chloroform                  | 67-66-3  | 1.5                                                    | 5.2                                                                 | 0.000053                                                                          | 0.0011                                                                                | 0.17                                                            | NS                                                                | 0.19                                                       |
| Chloromethane               | 74-87-3  | 500                                                    | 160                                                                 | 0.049                                                                             | 1.3                                                                                   | 190                                                             | NS                                                                | 190                                                        |

**Table 16**  
**RFI Phase II Analytical Parameters and EPA and WVDEP Standards**  
 RCRA Facility Investigation Phase II  
 Former BASF Huntington Works Facility, Huntington, West Virginia

| Chemical Name                      | CAS RN     | EPA<br>Industrial Risk<br>Screening Level<br><br>mg/Kg | WVDEP<br>60CSR3 Industrial<br>Soil De Minimis<br>Level<br><br>mg/Kg | EPA<br>Risk-Based<br>Screening Level<br>Protection of<br>Groundwater<br><br>mg/Kg | WVDEP<br>60CSR3 Migration<br>to Ground Water<br>Soil De Minimis<br>Level<br><br>mg/Kg | WVDEP<br>60CSR3 Ground<br>Water De Minimis<br>Level<br><br>ug/L | EPA<br>Groundwater<br>Maximum<br>Contaminant<br>Level<br><br>ug/L | EPA<br>Risk Screening<br>Level for<br>Tapwater<br><br>ug/L |
|------------------------------------|------------|--------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------|
| <b>Volatile Organics (cont'd.)</b> |            |                                                        |                                                                     |                                                                                   |                                                                                       |                                                                 |                                                                   |                                                            |
| Chloroprene                        | 126-99-8   | 36                                                     | 12                                                                  | 0.0075                                                                            | 0.12                                                                                  | 14                                                              | NS                                                                | 14                                                         |
| cis-1,3-Dichloropropene            | 10061-01-5 | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| cis-1,2-Dichloroethene             | 156-59-2   | 10,000                                                 | 150                                                                 | 0.11                                                                              | 0.4                                                                                   | 70                                                              | 70                                                                | 370                                                        |
| Dibromochloromethane               | 124-48-1   | 3.3                                                    | 680                                                                 | 0.000039                                                                          | 0.018                                                                                 | 0.8                                                             | NS                                                                | 0.15                                                       |
| Dibromomethane                     | 74-95-3    | 110                                                    | 240                                                                 | 0.002                                                                             | 0.31                                                                                  | 61                                                              | NS                                                                | 8.2                                                        |
| Dichlorodifluoromethane            | 75-71-8    | 780                                                    | 190                                                                 | 0.61                                                                              | 5.3                                                                                   | 390                                                             | NS                                                                | 390                                                        |
| Ethyl methacrylate                 | 97-63-2    | 92,000                                                 | 55                                                                  | 0.77                                                                              | 30                                                                                    | 550                                                             | NS                                                                | 3,300                                                      |
| Ethylbenzene                       | 100-41-4   | 27                                                     | 110                                                                 | 0.0017                                                                            | 8.9                                                                                   | 700                                                             | 700                                                               | 1.5                                                        |
| Iodomethane                        | 74-88-4    | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| Isobutyl alcohol                   | 78-83-1    | 310,000                                                | 27,000                                                              | 2.3                                                                               | 12                                                                                    | 1800                                                            | NS                                                                | 11,000                                                     |
| Methacrylonitrile                  | 126-98-7   | 18                                                     | 8.8                                                                 | 0.00024                                                                           | 0.0042                                                                                | 1                                                               | NS                                                                | 1                                                          |
| Methyl methacrylate                | 80-62-6    | 21,000                                                 | 3,400                                                               | 0.31                                                                              | 6.5                                                                                   | 1400                                                            | NS                                                                | 1,400                                                      |
| Methylene chloride                 | 75-09-2    | 53                                                     | 210                                                                 | 0.0012                                                                            | 0.023                                                                                 | 5                                                               | 5                                                                 | 4.8                                                        |
| Propionitrile                      | 107-12-0   | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| Styrene                            | 100-42-5   | 36,000                                                 | 630                                                                 | 1.8                                                                               | 4.1                                                                                   | 100                                                             | 100                                                               | 1,600                                                      |
| Tetrachloroethene                  | 127-18-4   | 2.6                                                    | 19                                                                  | 0.000049                                                                          | 0.08                                                                                  | 5                                                               | 5                                                                 | 0.11                                                       |
| Toluene                            | 108-88-3   | 45,000                                                 | 260                                                                 | 1.6                                                                               | 10                                                                                    | 1,000                                                           | 1,000                                                             | 2,300                                                      |
| trans-1,2-Dichloroethene           | 156-60-5   | 690                                                    | 180                                                                 | 0.031                                                                             | 0.62                                                                                  | 100                                                             | 100                                                               | 110                                                        |
| trans-1,3-Dichloropropene          | 10061-02-6 | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| trans-1,4-Dichloro-2-butene        | 110-57-6   | 0.035                                                  | NS                                                                  | 0.00000054                                                                        | NS                                                                                    | NS                                                              | NS                                                                | 0.0012                                                     |
| Trichloroethene                    | 79-01-6    | 14                                                     | 0.92                                                                | 0.00072                                                                           | 0.043                                                                                 | 5                                                               | 5                                                                 | 2                                                          |
| Trichlorofluoromethane             | 75-69-4    | 3,400                                                  | 950                                                                 | 0.83                                                                              | 22                                                                                    | 1300                                                            | NS                                                                | 1,300                                                      |
| Vinyl acetate                      | 108-05-4   | 4,100                                                  | 1,400                                                               | 0.088                                                                             | 1.8                                                                                   | 410                                                             | NS                                                                | 410                                                        |
| Vinyl chloride                     | 75-01-4    | 1.7                                                    | 8.8                                                                 | 0.00000056                                                                        | 0.013                                                                                 | 2                                                               | 2                                                                 | 0.016                                                      |
| Xylenes (total)                    | 1330-20-7  | 2,700                                                  | 100                                                                 | 0.2                                                                               | 120                                                                                   | 10,000                                                          | 10,000                                                            | 200                                                        |
| <b>Semi-Volatile Organics</b>      |            |                                                        |                                                                     |                                                                                   |                                                                                       |                                                                 |                                                                   |                                                            |
| 1,2,4,5-Tetrachlorobenzene         | 95-94-3    | 180                                                    | 260                                                                 | 0.051                                                                             | 0.66                                                                                  | 11                                                              | NS                                                                | 1.1                                                        |
| 1,2,4-Trichlorobenzene             | 120-82-1   | 99                                                     | 20,000                                                              | 0.0068                                                                            | 4.9                                                                                   | 70                                                              | 70                                                                | 2.3                                                        |
| 1,2-Dichlorobenzene                | 95-50-1    | 9,800                                                  | 150                                                                 | 0.36                                                                              | 12                                                                                    | 600                                                             | 600                                                               | 370                                                        |
| 1,2-Diphenylhydrazine              | 122-66-7   | 2.2                                                    | 31                                                                  | 0.00027                                                                           | 0.0026                                                                                | <b>0.084</b>                                                    | NS                                                                | 0.084                                                      |

**Table 16**  
**RFI Phase II Analytical Parameters and EPA and WVDEP Standards**  
 RCRA Facility Investigation Phase II  
 Former BASF Huntington Works Facility, Huntington, West Virginia

| Chemical Name                           | CAS RN   | EPA<br>Industrial Risk<br>Screening Level<br><br>mg/Kg | WVDEP<br>60CSR3 Industrial<br>Soil De Minimis<br>Level<br><br>mg/Kg | EPA<br>Risk-Based<br>Screening Level<br>Protection of<br>Groundwater<br><br>mg/Kg | WVDEP<br>60CSR3 Migration<br>to Ground Water<br>Soil De Minimis<br>Level<br><br>mg/Kg | WVDEP<br>60CSR3 Ground<br>Water De Minimis<br>Level<br><br>ug/L | EPA<br>Groundwater<br>Maximum<br>Contaminant<br>Level<br><br>ug/L | EPA<br>Risk Screening<br>Level for<br>Tapwater<br><br>ug/L |
|-----------------------------------------|----------|--------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------|
| <b>Semi-Volatile Organics (cont'd.)</b> |          |                                                        |                                                                     |                                                                                   |                                                                                       |                                                                 |                                                                   |                                                            |
| 1,3,5-Trinitrobenzene                   | 99-35-4  | 27,000                                                 | 26,000                                                              | 3.9                                                                               | 52                                                                                    | 1,100                                                           | NS                                                                | 1,100                                                      |
| 1,3-Dichlorobenzene                     | 541-73-1 | NS                                                     | 130                                                                 | NS                                                                                | 12                                                                                    | 600                                                             | NS                                                                | NS                                                         |
| 1,3-Dinitrobenzene                      | 99-65-0  | 62                                                     | 88                                                                  | 0.0033                                                                            | 0.037                                                                                 | <b>3.7</b>                                                      | NS                                                                | 3.7                                                        |
| 1,4-Dichlorobenzene                     | 106-46-7 | 12                                                     | 45                                                                  | 0.00041                                                                           | 2.2                                                                                   | 75                                                              | 75                                                                | 0.43                                                       |
| 1,4-Naphthoquinone                      | 130-15-4 | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| 1-Naphthylamine                         | 134-32-7 | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| 2,3,4,6-Tetrachlorophenol               | 58-90-2  | 18,000                                                 | 26,000                                                              | 6.7                                                                               | 92                                                                                    | 1,100                                                           | NS                                                                | 1,100                                                      |
| 2,4,5-Trichlorophenol                   | 95-95-4  | 62,000                                                 | 88,000                                                              | 14                                                                                | 250                                                                                   | 3,700                                                           | NS                                                                | 3,700                                                      |
| 2,4,6-Trichlorophenol                   | 88-06-2  | 160                                                    | 2,200                                                               | 0.023                                                                             | 0.12                                                                                  | <b>6.1</b>                                                      | NS                                                                | 6.1                                                        |
| 2,4-Dichlorophenol                      | 120-83-2 | 1,800                                                  | 2,600                                                               | 0.13                                                                              | 1.1                                                                                   | 110                                                             | NS                                                                | 110                                                        |
| 2,4-Dimethylphenol                      | 105-67-9 | 12,000                                                 | 18,000                                                              | 0.86                                                                              | 9                                                                                     | 730                                                             | NS                                                                | 730                                                        |
| 2,4-Dinitrophenol                       | 51-28-5  | 1,200                                                  | 1,800                                                               | 0.082                                                                             | 0.29                                                                                  | 73                                                              | NS                                                                | 73                                                         |
| 2,4-Dinitrotoluene                      | 121-14-2 | 5.5                                                    | 1,800                                                               | 0.00029                                                                           | 0.57                                                                                  | 73                                                              | NS                                                                | 0.22                                                       |
| 2,6-Dichlorophenol                      | 87-65-0  | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| 2,6-Dinitrotoluene                      | 606-20-2 | 620                                                    | 890                                                                 | 0.05                                                                              | 0.25                                                                                  | 37                                                              | NS                                                                | 37                                                         |
| 2-Acetylaminofluorene                   | 53-96-3  | 0.45                                                   | NS                                                                  | 0.000082                                                                          | NS                                                                                    | NS                                                              | NS                                                                | 0.018                                                      |
| 2-Chloronaphthalene                     | 91-58-7  | 82,000                                                 | 27,000                                                              | 15                                                                                | 32                                                                                    | 490                                                             | NS                                                                | 2,900                                                      |
| 2-Chlorophenol                          | 95-57-8  | 5,100                                                  | 240                                                                 | 0.15                                                                              | 0.61                                                                                  | 30                                                              | NS                                                                | 180                                                        |
| 2-Methylnaphthalene                     | 91-57-6  | 4,100                                                  | NS                                                                  | 0.75                                                                              | NS                                                                                    | NS                                                              | NS                                                                | 150                                                        |
| 2-Methylphenol                          | 95-48-7  | 31,000                                                 | 44,000                                                              | 1.5                                                                               | 14                                                                                    | 1,800                                                           | NS                                                                | 1,800                                                      |
| 2-Naphthylamine                         | 91-59-8  | 0.96                                                   | NS                                                                  | 0.00019                                                                           | NS                                                                                    | NS                                                              | NS                                                                | 0.037                                                      |
| 2-Nitroaniline                          | 88-74-4  | 6,000                                                  | 2,600                                                               | 0.15                                                                              | 0.56                                                                                  | 110                                                             | NS                                                                | 370                                                        |
| 2-Nitrophenol                           | 88-75-5  | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| 2-Picoline                              | 109-06-8 | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| 2-sec-Butyl-4,6-dinitrophenol           | 88-85-7  | 620                                                    | 880                                                                 | 0.32                                                                              | 0.033                                                                                 | 7                                                               | 7                                                                 | 37                                                         |
| 3,3'-Dichlorobenzidine                  | 91-94-1  | 3.8                                                    | 55                                                                  | 0.00098                                                                           | 0.0049                                                                                | 0.15                                                            | NS                                                                | 0.15                                                       |
| 3,3'-Dimethoxybenzidine                 | 119-90-4 | 120                                                    | 1,800                                                               | 0.0058                                                                            | 0.3                                                                                   | 4.8                                                             | NS                                                                | 4.8                                                        |
| 3,3'-Dimethylbenzidine                  | 119-93-7 | 0.16                                                   | 11                                                                  | 0.00004                                                                           | 0.0089                                                                                | 0.029                                                           | NS                                                                | 0.0061                                                     |
| 3-Methylcholanthrene                    | 56-49-5  | 0.078                                                  | NS                                                                  | 0.0059                                                                            | NS                                                                                    | NS                                                              | NS                                                                | 0.0031                                                     |
| 3-Methylphenol                          | 108-39-4 | 31,000                                                 | 44,000                                                              | 1.5                                                                               | 39                                                                                    | 1,800                                                           | NS                                                                | 1,800                                                      |

**Table 16**  
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 RCRA Facility Investigation Phase II  
 Former BASF Huntington Works Facility, Huntington, West Virginia

| Chemical Name                           | CAS RN    | EPA<br>Industrial Risk<br>Screening Level<br><br>mg/Kg | WVDEP<br>60CSR3 Industrial<br>Soil De Minimis<br>Level<br><br>mg/Kg | EPA<br>Risk-Based<br>Screening Level<br>Protection of<br>Groundwater<br><br>mg/Kg | WVDEP<br>60CSR3 Migration<br>to Ground Water<br>Soil De Minimis<br>Level<br><br>mg/Kg | WVDEP<br>60CSR3 Ground<br>Water De Minimis<br>Level<br><br>ug/L | EPA<br>Groundwater<br>Maximum<br>Contaminant<br>Level<br><br>ug/L | EPA<br>Risk Screening<br>Level for<br>Tapwater<br><br>ug/L |
|-----------------------------------------|-----------|--------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------|
| <b>Semi-Volatile Organics (cont'd.)</b> |           |                                                        |                                                                     |                                                                                   |                                                                                       |                                                                 |                                                                   |                                                            |
| 3-Nitroaniline                          | 99-09-2   | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| 4,6-Dinitro-2-methylphenol              | 534-52-1  | 62                                                     | NS                                                                  | 0.0062                                                                            | NS                                                                                    | NS                                                              | NS                                                                | 3.7                                                        |
| 4-Aminobiphenyl                         | 92-67-1   | 0.082                                                  | NS                                                                  | 0.000016                                                                          | NS                                                                                    | NS                                                              | NS                                                                | 0.0032                                                     |
| 4-Bromophenyl phenyl ether              | 101-55-3  | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| 4-Chloro-3-methylphenol                 | 59-50-7   | 62,000                                                 | NS                                                                  | 4.3                                                                               | NS                                                                                    | NS                                                              | NS                                                                | 3,700                                                      |
| 4-Chloroaniline                         | 106-47-8  | 8.6                                                    | 3500                                                                | 0.00014                                                                           | 0.97                                                                                  | 150                                                             | NS                                                                | 0.34                                                       |
| 4-Chlorophenyl phenyl ether             | 7005-72-3 | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| 4-Methylphenol                          | 106-44-5  | 3100                                                   | 4400                                                                | 0.15                                                                              | 3.9                                                                                   | 180                                                             | NS                                                                | 180                                                        |
| 4-Nitroaniline                          | 100-01-6  | 86                                                     | NS                                                                  | 0.0014                                                                            | NS                                                                                    | NS                                                              | NS                                                                | 3.4                                                        |
| 4-Nitrophenol                           | 100-02-7  | NS                                                     | 7000                                                                | NS                                                                                | 1.7                                                                                   | 290                                                             | NS                                                                | NS                                                         |
| 4-Nitroquinoline-1-oxide                | 56-57-5   | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| 5-Nitro-o-toluidine                     | 99-55-8   | 52                                                     | 750                                                                 | 0.0011                                                                            | 0.015                                                                                 | 2                                                               | NS                                                                | 2                                                          |
| 7,12-Dimethylbenz(a)anthracene          | 57-97-6   | 0.0062                                                 | NS                                                                  | 0.00027                                                                           | NS                                                                                    | NS                                                              | NS                                                                | 0.00027                                                    |
| a,a-Dimethylphenethylamine              | 122-09-8  | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| Acenaphthene                            | 83-32-9   | 33,000                                                 | 38,000                                                              | 22                                                                                | 73                                                                                    | 370                                                             | NS                                                                | 2,200                                                      |
| Acenaphthylene                          | 208-96-8  | NS                                                     | 44,000                                                              | NS                                                                                | 91                                                                                    | 370                                                             | NS                                                                | NS                                                         |
| Acetophenone                            | 98-86-2   | 100,000                                                | 25,000                                                              | 1.1                                                                               | 3.2                                                                                   | 610                                                             | NS                                                                | 3,700                                                      |
| Aniline                                 | 62-53-3   | 300                                                    | 4,300                                                               | 0.004                                                                             | 0.14                                                                                  | 12                                                              | NS                                                                | 12                                                         |
| Anthracene                              | 120-12-7  | 170,000                                                | 390,000                                                             | 360                                                                               | 1700                                                                                  | 1800                                                            | NS                                                                | 11,000                                                     |
| Aramite                                 | 140-57-8  | 69                                                     | NS                                                                  | 0.03                                                                              | NS                                                                                    | NS                                                              | NS                                                                | 2.7                                                        |
| Benzidine                               | 92-87-5   | 0.0075                                                 | 0.11                                                                | 0.00000024                                                                        | 0.000033                                                                              | 0.00029                                                         | NS                                                                | 0.000094                                                   |
| Benzo(a)anthracene                      | 56-55-3   | 2.1                                                    | 29                                                                  | 0.01                                                                              | 1.5                                                                                   | 0.092                                                           | NS                                                                | 0.029                                                      |
| Benzo(a)pyrene                          | 50-32-8   | 0.21                                                   | 2.9                                                                 | 0.0035                                                                            | 8.2                                                                                   | 0.2                                                             | 0.2                                                               | 0.0029                                                     |
| Benzo(b)fluoranthene                    | 205-99-2  | 2.1                                                    | 29                                                                  | 0.035                                                                             | 4.5                                                                                   | 0.092                                                           | 0.029                                                             | NS                                                         |
| Benzo(ghi)perylene                      | 191-24-2  | NS                                                     | 23,000                                                              | NS                                                                                | 120,000                                                                               | 1100                                                            | NS                                                                | NS                                                         |
| Benzo(k)fluoranthene                    | 207-08-9  | 21                                                     | 290                                                                 | 0.35                                                                              | 45                                                                                    | 0.92                                                            | NS                                                                | 0.29                                                       |
| Benzyl alcohol                          | 100-51-6  | 62,000                                                 | 440,000                                                             | 0.89                                                                              | 150                                                                                   | 18000                                                           | NS                                                                | 3,700                                                      |
| bis(2-Chloro-1-methylethyl) ether       | 108-60-1  | 22                                                     | 81                                                                  | 0.00012                                                                           | 0.0018                                                                                | 0.27                                                            | NS                                                                | 0.32                                                       |
| bis(2-Chloroethoxy)methane              | 111-91-1  | 1,800                                                  | NS                                                                  | 0.025                                                                             | NS                                                                                    | NS                                                              | NS                                                                | 110                                                        |
| bis(2-Chloroethyl) ether                | 111-44-4  | 1.0                                                    | 6                                                                   | 0.0000031                                                                         | 0.56                                                                                  | 80                                                              | NS                                                                | 0.12                                                       |

**Table 16**  
**RFI Phase II Analytical Parameters and EPA and WVDEP Standards**  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works Facility, Huntington, West Virginia

| Chemical Name                           | CAS RN    | EPA<br>Industrial Risk<br>Screening Level<br><br>mg/Kg | WVDEP<br>60CSR3 Industrial<br>Soil De Minimis<br>Level<br><br>mg/Kg | EPA<br>Risk-Based<br>Screening Level<br>Protection of<br>Groundwater<br><br>mg/Kg | WVDEP<br>60CSR3 Migration<br>to Ground Water<br>Soil De Minimis<br>Level<br><br>mg/Kg | WVDEP<br>60CSR3 Ground<br>Water De Minimis<br>Level<br><br>ug/L | EPA<br>Groundwater<br>Maximum<br>Contaminant<br>Level<br><br>ug/L | EPA<br>Risk Screening<br>Level for<br>Tapwater<br><br>ug/L |
|-----------------------------------------|-----------|--------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------|
| <b>Semi-Volatile Organics (cont'd.)</b> |           |                                                        |                                                                     |                                                                                   |                                                                                       |                                                                 |                                                                   |                                                            |
| bis(2-Ethylhexyl) phthalate             | 117-81-7  | 120                                                    | 1,800                                                               | 1.1                                                                               | 3,600                                                                                 | 6                                                               | 6                                                                 | 4.8                                                        |
| Butyl benzyl phthalate                  | 85-68-7   | 910                                                    | 180,000                                                             | 0.51                                                                              | 17,000                                                                                | 7,300                                                           | NS                                                                | 35                                                         |
| Chlorobenzilate                         | 510-15-6  | 16                                                     | 91                                                                  | 0.002                                                                             | 0.027                                                                                 | 0.25                                                            | NS                                                                | 0.61                                                       |
| Chrysene                                | 218-01-9  | 210                                                    | 2900                                                                | 1.1                                                                               | 150                                                                                   | 9.2                                                             | NS                                                                | 2.9                                                        |
| Diallate                                | 2303-16-4 | 28                                                     | NS                                                                  | 0.0016                                                                            | NS                                                                                    | NS                                                              | NS                                                                | 1.1                                                        |
| Dibenz(a,h)anthracene                   | 53-70-3   | 0.21                                                   | 2.9                                                                 | 0.011                                                                             | 1.4                                                                                   | 0.0092                                                          | NS                                                                | 0.0029                                                     |
| Dibenzofuran                            | 132-64-9  | 1,000                                                  | 2,000                                                               | 0.68                                                                              | 11                                                                                    | 37                                                              | NS                                                                | 37                                                         |
| Diethyl phthalate                       | 84-66-2   | 490,000                                                | 700,000                                                             | 12                                                                                | 450                                                                                   | 29,000                                                          | NS                                                                | 29,000                                                     |
| Dimethoate                              | 60-51-5   | 120                                                    | NS                                                                  | 0.0016                                                                            | NS                                                                                    | NS                                                              | NS                                                                | 7.3                                                        |
| Dimethyl phthalate                      | 131-11-3  | NS                                                     | 1,000,000                                                           | NS                                                                                | 2,000                                                                                 | 370,000                                                         | NS                                                                | NS                                                         |
| Di-n-butyl phthalate                    | 84-74-2   | 62,000                                                 | 88,000                                                              | 9.2                                                                               | 5,000                                                                                 | 3,700                                                           | NS                                                                | 3,700                                                      |
| Di-n-octyl phthalate                    | 117-84-0  | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| Diphenylamine                           | 122-39-4  | 15,000                                                 | 22,000                                                              | 1.7                                                                               | 25                                                                                    | 910                                                             | NS                                                                | 910                                                        |
| Disulfoton                              | 298-04-4  | 25                                                     | 35                                                                  | 0.0027                                                                            | 0.064                                                                                 | 1.5                                                             | NS                                                                | 1.5                                                        |
| Ethyl methanesulfonate                  | 62-50-0   | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| Famphur                                 | 52-85-7   | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| Fluoranthene                            | 206-44-0  | 22,000                                                 | 30,000                                                              | 160                                                                               | 6,300                                                                                 | 1,500                                                           | NS                                                                | 1,500                                                      |
| Fluorene                                | 86-73-7   | 22,000                                                 | 33,000                                                              | 27                                                                                | 78                                                                                    | 240                                                             | NS                                                                | 1,500                                                      |
| Hexachlorobenzene                       | 118-74-1  | 1.1                                                    | 15                                                                  | 0.00053                                                                           | 2.2                                                                                   | 1                                                               | 1                                                                 | 0.042                                                      |
| Hexachlorobutadiene                     | 87-68-3   | 22                                                     | 320                                                                 | 0.0017                                                                            | 1.9                                                                                   | 0.86                                                            | NS                                                                | 0.86                                                       |
| Hexachlorocyclopentadiene               | 77-47-4   | 3,700                                                  | 5,200                                                               | 0.68                                                                              | 400                                                                                   | 50                                                              | 50                                                                | 220                                                        |
| Hexachloroethane                        | 67-72-1   | 120                                                    | 880                                                                 | 0.0029                                                                            | 0.36                                                                                  | 4.8                                                             | NS                                                                | 4.8                                                        |
| Hexachloropropene                       | 1888-71-7 | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| Indeno(1,2,3-cd)pyrene                  | 193-39-5  | 2.1                                                    | 29                                                                  | 0.12                                                                              | 13                                                                                    | 0.092                                                           | NS                                                                | 0.029                                                      |
| Isodrin                                 | 465-73-6  | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| Isophorone                              | 78-59-1   | 1,800                                                  | 26,000                                                              | 0.023                                                                             | 0.42                                                                                  | 71                                                              | NS                                                                | 71                                                         |
| Isosafrole                              | 120-58-1  | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| Methapyrilene                           | 91-80-5   | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| Methyl methanesulfonate                 | 66-27-3   | 17                                                     | NS                                                                  | 0.00014                                                                           | NS                                                                                    | NS                                                              | NS                                                                | 0.68                                                       |
| Methyl parathion                        | 298-00-0  | 150                                                    | 220                                                                 | 0.015                                                                             | 0.085                                                                                 | 9.1                                                             | NS                                                                | 9.1                                                        |

**Table 16**  
**RFI Phase II Analytical Parameters and EPA and WVDEP Standards**  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works Facility, Huntington, West Virginia

| Chemical Name                           | CAS RN     | EPA<br>Industrial Risk<br>Screening Level<br><br>mg/Kg | WVDEP<br>60CSR3 Industrial<br>Soil De Minimis<br>Level<br><br>mg/Kg | EPA<br>Risk-Based<br>Screening Level<br>Protection of<br>Groundwater<br><br>mg/Kg | WVDEP<br>60CSR3 Migration<br>to Ground Water<br>Soil De Minimis<br>Level<br><br>mg/Kg | WVDEP<br>60CSR3 Ground<br>Water De Minimis<br>Level<br><br>ug/L | EPA<br>Groundwater<br>Maximum<br>Contaminant<br>Level<br><br>ug/L | EPA<br>Risk Screening<br>Level for<br>Tapwater<br><br>ug/L |
|-----------------------------------------|------------|--------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------|
| <b>Semi-Volatile Organics (cont'd.)</b> |            |                                                        |                                                                     |                                                                                   |                                                                                       |                                                                 |                                                                   |                                                            |
| Nitrobenzene                            | 98-95-3    | 24                                                     | 110                                                                 | 0.000079                                                                          | 0.022                                                                                 | 3.4                                                             | NS                                                                | 0.12                                                       |
| N-Nitrosodiethylamine                   | 55-18-5    | 0.011                                                  | 0.16                                                                | 0.00000053                                                                        | 0.0000023                                                                             | 0.00045                                                         | NS                                                                | 0.00014                                                    |
| N-Nitrosodimethylamine                  | 62-75-9    | 0.034                                                  | 0.48                                                                | 0.0000001                                                                         | 0.0000057                                                                             | 0.0013                                                          | NS                                                                | 0.00042                                                    |
| N-Nitrosodi-n-butylamine                | 924-16-3   | 0.40                                                   | 0.62                                                                | 0.000005                                                                          | 0.000029                                                                              | 0.002                                                           | NS                                                                | 0.0024                                                     |
| N-Nitrosodi-n-propylamine               | 621-64-7   | 0.25                                                   | 3.5                                                                 | 0.0000072                                                                         | 0.000048                                                                              | 0.0096                                                          | NS                                                                | 0.0096                                                     |
| N-Nitrosodiphenylamine                  | 86-30-6    | 350                                                    | 5,000                                                               | 0.075                                                                             | 0.76                                                                                  | 14                                                              | NS                                                                | 14                                                         |
| N-Nitrosomethylethylamine               | 10595-95-6 | 0.078                                                  | 1.1                                                                 | 0.00000088                                                                        | 0.000021                                                                              | 0.0031                                                          | NS                                                                | 0.0031                                                     |
| N-Nitrosomorpholine                     | 59-89-2    | 0.26                                                   | NS                                                                  | 0.0000026                                                                         | NS                                                                                    | NS                                                              | NS                                                                | 0.01                                                       |
| N-Nitrosopiperidine                     | 100-75-4   | 0.18                                                   | NS                                                                  | 0.0000038                                                                         | NS                                                                                    | NS                                                              | NS                                                                | 0.0072                                                     |
| N-Nitrosopyrrolidine                    | 930-55-2   | 0.82                                                   | 12                                                                  | 0.000012                                                                          | 0.00033                                                                               | 0.032                                                           | NS                                                                | 0.032                                                      |
| O,O,O-Triethyl phosphorothioate         | 126-68-1   | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |
| o-Toluidine                             | 95-53-4    | NS                                                     | 100                                                                 | NS                                                                                | 0.0057                                                                                | 0.28                                                            | NS                                                                | NS                                                         |
| Parathion                               | 56-38-2    | 3,700                                                  | 5,300                                                               | 1.1                                                                               | 10                                                                                    | 220                                                             | NS                                                                | 220                                                        |
| p-Dimethylaminoazobenzene               | 60-11-7    | 0.37                                                   | NS                                                                  | 0.000062                                                                          | NS                                                                                    | NS                                                              | NS                                                                | 0.015                                                      |
| Pentachlorobenzene                      | 608-93-5   | 490                                                    | 700                                                                 | 0.22                                                                              | 20                                                                                    | 29                                                              | NS                                                                | 29                                                         |
| Pentachloroethane                       | 76-01-7    | 19                                                     | NS                                                                  | 0.00036                                                                           | NS                                                                                    | NS                                                              | NS                                                                | 0.75                                                       |
| Pentachloronitrobenzene                 | 82-68-8    | 6.6                                                    | 95                                                                  | 0.0032                                                                            | 0.083                                                                                 | 0.26                                                            | NS                                                                | 0.26                                                       |
| Pentachlorophenol                       | 87-86-5    | 9                                                      | 110                                                                 | 0.0057                                                                            | 0.028                                                                                 | 1                                                               | 1                                                                 | 0.56                                                       |
| Phenacetin                              | 62-44-2    | 780                                                    | NS                                                                  | 0.0086                                                                            | NS                                                                                    | NS                                                              | NS                                                                | 31                                                         |
| Phenanthrene                            | 85-01-8    | NS                                                     | 410,000                                                             | NS                                                                                | 1,500                                                                                 | 1,800                                                           | NS                                                                | NS                                                         |
| Phenol                                  | 108-95-2   | 180,000                                                | 260,000                                                             | 6.3                                                                               | 56                                                                                    | 11,000                                                          | NS                                                                | 11,000                                                     |
| Phorate                                 | 298-02-2   | 120                                                    | NS                                                                  | 0.0082                                                                            | NS                                                                                    | NS                                                              | NS                                                                | 7.3                                                        |
| p-Phenylene diamine                     | 106-50-3   | 120,000                                                | 170,000                                                             | 1.9                                                                               | 48                                                                                    | 6,900                                                           | NS                                                                | 6,900                                                      |
| Pronamide                               | 23950-58-5 | 46,000                                                 | NS                                                                  | 2.8                                                                               | NS                                                                                    | NS                                                              | NS                                                                | 2,700                                                      |
| Pyrene                                  | 129-00-0   | 17,000                                                 | 54,000                                                              | 120                                                                               | 500                                                                                   | 180                                                             | NS                                                                | 11,000                                                     |
| Pyridine                                | 110-86-1   | 1,000                                                  | 880                                                                 | 0.013                                                                             | 0.19                                                                                  | 37                                                              | NS                                                                | 37                                                         |
| Safrole                                 | 94-59-7    | 7.8                                                    | NS                                                                  | 0.00019                                                                           | NS                                                                                    | NS                                                              | NS                                                                | 31                                                         |
| Tetraethyldithiopyrophosphate           | 3689-24-5  | 310                                                    | NS                                                                  | 0.013                                                                             | NS                                                                                    | NS                                                              | NS                                                                | 18                                                         |
| Thionazin                               | 297-97-2   | NS                                                     | NS                                                                  | NS                                                                                | NS                                                                                    | NS                                                              | NS                                                                | NS                                                         |



**Table 16**  
**RFI Phase II Analytical Parameters and EPA and WVDEP Standards**  
 RCRA Facility Investigation Phase II  
 Former BASF Huntington Works Facility, Huntington, West Virginia

| Chemical Name                    | CAS RN     | EPA<br>Industrial Risk<br>Screening Level<br><br>mg/Kg | WVDEP<br>60CSR3 Industrial<br>Soil De Minimis<br>Level<br><br>mg/Kg | EPA<br>Risk-Based<br>Screening Level<br>Protection of<br>Groundwater<br><br>mg/Kg | WVDEP<br>60CSR3 Migration<br>to Ground Water<br>Soil De Minimis<br>Level<br><br>mg/Kg | WVDEP<br>60CSR3 Ground<br>Water De Minimis<br>Level<br><br>ug/L | EPA<br>Groundwater<br>Maximum<br>Contaminant<br>Level<br><br>ug/L | EPA<br>Risk Screening<br>Level for<br>Tapwater<br><br>ug/L |
|----------------------------------|------------|--------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------|
| <b>Polychlorinated Biphenyls</b> |            |                                                        |                                                                     |                                                                                   |                                                                                       |                                                                 |                                                                   |                                                            |
| Total PCBs                       | 1336-36-3  | NS                                                     | 10                                                                  | NS                                                                                | 0.9                                                                                   | 0.5                                                             | NS                                                                | NS                                                         |
| Aroclor 1016                     | 12674-11-2 | 21                                                     | 50                                                                  | 0.092                                                                             | 1.3                                                                                   | 0.96                                                            | NS                                                                | 0.96                                                       |
| Aroclor 1221                     | 11104-28-2 | 0.54                                                   | 10                                                                  | 0.00012                                                                           | 0.0023                                                                                | 0.0056                                                          | NS                                                                | 0.0068                                                     |
| Aroclor 1232                     | 11141-16-5 | 0.54                                                   | 10                                                                  | 0.00012                                                                           | 0.0023                                                                                | 0.0056                                                          | NS                                                                | 0.0068                                                     |
| Aroclor 1242                     | 53469-21-9 | 0.74                                                   | 10                                                                  | 0.0053                                                                            | 0.045                                                                                 | 0.034                                                           | NS                                                                | 0.034                                                      |
| Aroclor 1248                     | 12672-29-6 | 0.74                                                   | 10                                                                  | 0.0052                                                                            | 0.059                                                                                 | 0.034                                                           | NS                                                                | 0.034                                                      |
| Aroclor 1254                     | 11097-69-1 | 0.74                                                   | 10                                                                  | 0.0088                                                                            | 0.27                                                                                  | 0.034                                                           | NS                                                                | 0.034                                                      |
| Aroclor 1260                     | 11096-82-5 | 0.74                                                   | 10                                                                  | 0.024                                                                             | 0.39                                                                                  | 0.034                                                           | NS                                                                | 0.034                                                      |
| <b>Metals</b>                    |            |                                                        |                                                                     |                                                                                   |                                                                                       |                                                                 |                                                                   |                                                            |
| Antimony                         | 7440-36-0  | 410                                                    | 820                                                                 | 0.66                                                                              | 5.4                                                                                   | 6                                                               | 6                                                                 | 15                                                         |
| Arsenic                          | 7440-38-2  | 1.6                                                    | 27                                                                  | 0.0013                                                                            | 5.8                                                                                   | 10                                                              | 10                                                                | 0.045                                                      |
| Barium                           | 7440-39-3  | 190,000                                                | 290,000                                                             | 82                                                                                | 1,600                                                                                 | 2,000                                                           | 2,000                                                             | 7,300                                                      |
| Beryllium                        | 7440-41-7  | 2,000                                                  | 3,700                                                               | 3.2                                                                               | 63                                                                                    | 4                                                               | 4                                                                 | 73                                                         |
| Cadmium                          | 7440-43-9  | 800                                                    | 1,000                                                               | 1.4                                                                               | 7.5                                                                                   | 5                                                               | 5                                                                 | 18                                                         |
| Chromium                         | 7440-47-3  | NS                                                     | NS                                                                  | 180,000                                                                           | NS                                                                                    | NS                                                              | 100                                                               | NS                                                         |
| Cobalt                           | 7440-48-4  | 300                                                    | 19,000                                                              | 0.49                                                                              | 660                                                                                   | 730                                                             | NS                                                                | 11                                                         |
| Copper                           | 7440-50-8  | 41,000                                                 | 82,000                                                              | 51                                                                                | 1,000                                                                                 | 1,500                                                           | 1,300                                                             | 1,500                                                      |
| Lead                             | 7439-92-1  | 800                                                    | 1,000                                                               | NS                                                                                | 270                                                                                   | 15                                                              | 15                                                                | NS                                                         |
| Mercury                          | 7439-97-6  | 34                                                     | 610                                                                 | 0.03                                                                              | 2.1                                                                                   | NS                                                              | 2                                                                 | 0.57                                                       |
| Nickel                           | 7440-02-0  | 20,000                                                 | 41,000                                                              | 48                                                                                | 130                                                                                   | 100                                                             | NS                                                                | 730                                                        |
| Selenium                         | 7782-49-2  | 5,100                                                  | 10,000                                                              | 0.95                                                                              | 5.2                                                                                   | 50                                                              | 50                                                                | 180                                                        |
| Silver                           | 7440-22-4  | 5,100                                                  | 10,000                                                              | 1.6                                                                               | 31                                                                                    | 180                                                             | NS                                                                | 180                                                        |
| Thallium                         | 7440-28-0  | NS                                                     | 160                                                                 | NS                                                                                | 2.8                                                                                   | 2                                                               | 2                                                                 | NS                                                         |
| Tin                              | 7440-31-5  | 610,000                                                | 1,000,000                                                           | 5,500                                                                             | 110,000                                                                               | 22,000                                                          | NS                                                                | 22,000                                                     |
| Vanadium                         | 7440-62-2  | 72                                                     | 2,000                                                               | 2.6                                                                               | 730                                                                                   | 37                                                              | NS                                                                | 2.6                                                        |
| Zinc                             | 7440-66-6  | 310,000                                                | 610,000                                                             | 680                                                                               | 14,000                                                                                | 11,000                                                          | NS                                                                | 11,000                                                     |

Table 17  
AOC 2 Soil Sample Results for Volatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

Table 17

| Boring Location:            |          | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil De<br>Minimis Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water Soil<br>De Minimis Level<br>mg/Kg | AOC2-01<br>AOC2-01-7.0<br>A9G150161008<br>07/13/2009<br>7-7.5<br>mg/Kg |    |    | AOC2-02<br>AOC2-02-7.0<br>A9G150161007<br>07/13/2009<br>7-7.5<br>mg/Kg |       |    | AOC2-03<br>AOC2-03-8.0<br>A9G150161005<br>07/13/2009<br>8-8.5<br>mg/Kg |    |       | AOC2-04<br>AOC2-04-7.5<br>A9G150161009<br>07/13/2009<br>7.5-8<br>mg/Kg |    |    | AOC2-05<br>AOC2-05-9.5<br>A9G150150004<br>07/14/2009<br>9.5-10<br>mg/Kg |    |    | AOC2-06<br>AOC2-06-9.5<br>A9G150150003<br>07/14/2009<br>9.5-10<br>mg/Kg |        |    | AOC2-07<br>AOC2-07-9.0<br>A9G150161003<br>07/13/2009<br>9-9.5<br>mg/Kg |    |        | AOC2-08<br>AOC2-08-8.0<br>A9G150161004<br>07/13/2009<br>8-8.5<br>mg/Kg |    |    | AOC2-09<br>AOC2-09-9.5<br>A9G150150005<br>07/14/2009<br>9.5-10<br>mg/Kg |    |    | AOC2-10<br>AOC2-10-10.0<br>A9G110141009<br>07/10/2009<br>10-10.5<br>mg/Kg |         |    | AOC2-11<br>AOC2-11-6.5<br>A9G110141008<br>07/10/2009<br>6.5-7<br>mg/Kg |    |        |   |  |  |        |   |   |  |        |   |   |  |  |
|-----------------------------|----------|----------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|-------|----|------------------------------------------------------------------------|----|-------|------------------------------------------------------------------------|----|----|-------------------------------------------------------------------------|----|----|-------------------------------------------------------------------------|--------|----|------------------------------------------------------------------------|----|--------|------------------------------------------------------------------------|----|----|-------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|---------|----|------------------------------------------------------------------------|----|--------|---|--|--|--------|---|---|--|--------|---|---|--|--|
| Soil Sample ID:             |          |                                                                |                                                                             |                                                                                               | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ    | DV | Result/RL                                                              | LQ | DV    | Result/RL                                                              | LQ | DV | Result/RL                                                               | LQ | DV | Result/RL                                                               | LQ     | DV | Result/RL                                                              | LQ | DV     | Result/RL                                                              | LQ | DV | Result/RL                                                               | LQ | DV | Result/RL                                                                 | LQ      | DV | Result/RL                                                              | LQ | DV     |   |  |  |        |   |   |  |        |   |   |  |  |
| Laboratory Sample ID:       |          |                                                                |                                                                             |                                                                                               |                                                                        |    |    |                                                                        |       |    |                                                                        |    |       |                                                                        |    |    |                                                                         |    |    |                                                                         |        |    |                                                                        |    |        |                                                                        |    |    |                                                                         |    |    |                                                                           |         |    |                                                                        |    |        |   |  |  |        |   |   |  |        |   |   |  |  |
| Sample Date:                |          |                                                                |                                                                             |                                                                                               |                                                                        |    |    |                                                                        |       |    |                                                                        |    |       |                                                                        |    |    |                                                                         |    |    |                                                                         |        |    |                                                                        |    |        |                                                                        |    |    |                                                                         |    |    |                                                                           |         |    |                                                                        |    |        |   |  |  |        |   |   |  |        |   |   |  |  |
| Sample Depth:               |          |                                                                |                                                                             |                                                                                               |                                                                        |    |    |                                                                        |       |    |                                                                        |    |       |                                                                        |    |    |                                                                         |    |    |                                                                         |        |    |                                                                        |    |        |                                                                        |    |    |                                                                         |    |    |                                                                           |         |    |                                                                        |    |        |   |  |  |        |   |   |  |        |   |   |  |  |
| Concentration Unit:         |          |                                                                |                                                                             |                                                                                               |                                                                        |    |    |                                                                        |       |    |                                                                        |    |       |                                                                        |    |    |                                                                         |    |    |                                                                         |        |    |                                                                        |    |        |                                                                        |    |    |                                                                         |    |    |                                                                           |         |    |                                                                        |    |        |   |  |  |        |   |   |  |        |   |   |  |  |
| Chemical Name               | CAS RN   |                                                                |                                                                             |                                                                                               |                                                                        |    |    |                                                                        |       |    |                                                                        |    |       |                                                                        |    |    |                                                                         |    |    |                                                                         |        |    |                                                                        |    |        |                                                                        |    |    |                                                                         |    |    |                                                                           |         |    |                                                                        |    |        |   |  |  |        |   |   |  |        |   |   |  |  |
| 1,1,1,2-Tetrachloroethane   | 630-20-6 | 9.3                                                            | 71                                                                          | 0.0031                                                                                        | 0.0052                                                                 | U  |    |                                                                        | 0.064 | U  | J                                                                      |    | 0.053 | U                                                                      | J  |    | 0.12                                                                    | U  | R  |                                                                         | 0.0045 | U  |                                                                        |    | 0.0044 | U                                                                      |    |    | 0.0053                                                                  | U  |    |                                                                           | 0.005   | U  |                                                                        |    | 0.0049 | U |  |  | 0.0053 | U |   |  | 0.0057 | U |   |  |  |
| 1,1,1-Trichloroethane       | 71-55-6  | 38,000                                                         | 710                                                                         | 2.1                                                                                           | 0.0052                                                                 | U  |    |                                                                        | 0.064 | U  | J                                                                      |    | 0.053 | U                                                                      | J  |    | 0.12                                                                    | U  | R  |                                                                         | 0.0045 | U  |                                                                        |    | 0.0044 | U                                                                      |    |    | 0.0053                                                                  | U  |    |                                                                           | 0.005   | U  |                                                                        |    | 0.0049 | U |  |  | 0.0053 | U |   |  | 0.0057 | U |   |  |  |
| 1,1,2,2-Tetrachloroethane   | 79-34-5  | 2.8                                                            | 9                                                                           | 0.0004                                                                                        | 0.0052                                                                 | U  |    |                                                                        | 0.064 | U  | J                                                                      |    | 0.053 | U                                                                      | J  |    | 0.12                                                                    | U  | R  |                                                                         | 0.0045 | U  |                                                                        |    | 0.0044 | U                                                                      |    |    | 0.0053                                                                  | U  |    |                                                                           | 0.005   | U  |                                                                        |    | 0.0049 | U |  |  | 0.0053 | U |   |  | 0.0057 | U |   |  |  |
| 1,1,2-Trichloroethane       | 79-00-5  | 5.3                                                            | 19                                                                          | 0.035                                                                                         | 0.0052                                                                 | U  |    |                                                                        | 0.064 | U  | J                                                                      |    | 0.053 | U                                                                      | J  |    | 0.12                                                                    | U  | R  |                                                                         | 0.0045 | U  |                                                                        |    | 0.0044 | U                                                                      |    |    | 0.0053                                                                  | U  |    |                                                                           | 0.005   | U  |                                                                        |    | 0.0049 | U |  |  | 0.0053 | U |   |  | 0.0057 | U |   |  |  |
| 1,1-Dichloroethane          | 75-34-3  | 17                                                             | 1,600                                                                       | 5.9                                                                                           | 0.0052                                                                 | U  |    |                                                                        | 0.064 | U  | J                                                                      |    | 0.053 | U                                                                      | J  |    | 0.12                                                                    | U  | R  |                                                                         | 0.0045 | U  |                                                                        |    | 0.0044 | U                                                                      |    |    | 0.0053                                                                  | U  |    |                                                                           | 0.005   | U  |                                                                        |    | 0.0049 | U |  |  | 0.0053 | U |   |  | 0.0057 | U |   |  |  |
| 1,1-Dichloroethene          | 75-35-4  | 1,100                                                          | 430                                                                         | 0.059                                                                                         | 0.0052                                                                 | U  |    |                                                                        | 0.064 | U  | J                                                                      |    | 0.053 | U                                                                      | J  |    | 0.12                                                                    | U  | R  |                                                                         | 0.0045 | U  |                                                                        |    | 0.0044 | U                                                                      |    |    | 0.0053                                                                  | U  |    |                                                                           | 0.005   | U  |                                                                        |    | 0.0049 | U |  |  | 0.0053 | U |   |  | 0.0057 | U |   |  |  |
| 1,2,3-Trichloropropane      | 96-18-4  | 0.095                                                          | 11                                                                          | 0.00027                                                                                       | 0.0052                                                                 | U  |    |                                                                        | 0.064 | U  | J                                                                      |    | 0.053 | U                                                                      | J  |    | 0.12                                                                    | U  | R  |                                                                         | 0.0045 | U  |                                                                        |    | 0.0044 | U                                                                      |    |    | 0.0053                                                                  | U  |    |                                                                           | 0.005   | U  |                                                                        |    | 0.0049 | U |  |  | 0.0053 | U |   |  | 0.0057 | U |   |  |  |
| 1,2-Dibromo-3-chloropropane | 96-12-8  | 0.069                                                          | 71                                                                          | 0.001                                                                                         | 0.01                                                                   | U  |    |                                                                        | 0.13  | U  | J                                                                      |    | 0.11  | U                                                                      | J  |    | 0.24                                                                    | U  | R  |                                                                         | 0.0091 | U  |                                                                        |    | 0.0089 | U                                                                      |    |    | 0.011                                                                   | U  |    |                                                                           | 0.0099  | U  |                                                                        |    | 0.0099 | U |  |  | 0.011  | U |   |  | 0.011  | U |   |  |  |
| 1,2-Dibromoethane (EDB)     | 106-93-4 | 0.17                                                           | 0.62                                                                        | 0.00026                                                                                       | 0.0052                                                                 | U  |    |                                                                        | 0.064 | U  | J                                                                      |    | 0.053 | U                                                                      | J  |    | 0.12                                                                    | U  | R  |                                                                         | 0.0045 | U  |                                                                        |    | 0.0044 | U                                                                      |    |    | 0.0053                                                                  | U  |    |                                                                           | 0.005   | U  |                                                                        |    | 0.0049 | U |  |  | 0.0053 | U |   |  | 0.0057 | U |   |  |  |
| 1,2-Dichloroethane          | 107-06-2 | 2.2                                                            | 7.7                                                                         | 0.028                                                                                         | 0.0052                                                                 | U  |    |                                                                        | 0.064 | U  | J                                                                      |    | 0.053 | U                                                                      | J  |    | 0.12                                                                    | U  | R  |                                                                         | 0.0045 | U  |                                                                        |    | 0.0044 | U                                                                      |    |    | 0.0053                                                                  | U  |    |                                                                           | 0.005   | U  |                                                                        |    | 0.0049 | U |  |  | 0.0053 | U |   |  | 0.0057 | U |   |  |  |
| 1,2-Dichloropropane         | 78-87-5  | 4.5                                                            | 14                                                                          | 0.03                                                                                          | 0.0052                                                                 | U  |    |                                                                        | 0.064 | U  | J                                                                      |    | 0.053 | U                                                                      | J  |    | 0.12                                                                    | U  | R  |                                                                         | 0.0045 | U  |                                                                        |    | 0.0044 | U                                                                      |    |    | 0.0053                                                                  | U  |    |                                                                           | 0.005   | U  |                                                                        |    | 0.0049 | U |  |  | 0.0053 | U |   |  | 0.0057 | U |   |  |  |
| 1,4-Dioxane                 | 123-91-1 | 160                                                            | 2,200                                                                       | 0.026                                                                                         | 0.26                                                                   | U  | R  |                                                                        | 3.2   | U  | R                                                                      |    | 2.6   | U                                                                      | R  |    | 6                                                                       | U  | R  |                                                                         | 0.23   | U  |                                                                        |    | 0.22   | U                                                                      |    |    | 0.26                                                                    | U  | R  |                                                                           | 0.25    | U  |                                                                        |    | 0.25   | U |  |  | 0.27   | U | R |  | 0.28   | U | R |  |  |
| 2-Butanone (MEK)            | 78-93-3  | 190,000                                                        | 56,000                                                                      | 29                                                                                            | 0.0037                                                                 | J  |    |                                                                        | 0.26  | U  | J                                                                      |    | 0.21  | U                                                                      | J  |    | 0.48                                                                    | U  | R  |                                                                         | 0.018  | U  |                                                                        |    | 0.018  | U                                                                      |    |    | 0.021                                                                   | U  |    |                                                                           | 0.00097 | J  |                                                                        |    | 0.02   | U |  |  | 0.021  | U |   |  | 0.0023 | J |   |  |  |
| 2-Hexanone                  | 591-78-6 | 1,400                                                          | NS                                                                          | NS                                                                                            | 0.021                                                                  | U  |    |                                                                        | 0.26  | U  | J                                                                      |    | 0.21  | U                                                                      | J  |    | 0.48                                                                    | U  | R  |                                                                         | 0.018  | U  |                                                                        |    | 0.018  | U                                                                      |    |    | 0.021                                                                   | U  |    |                                                                           | 0.02    | U  |                                                                        |    | 0.02   | U |  |  | 0.021  | U |   |  | 0.023  | U |   |  |  |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 53,000                                                         | 8,900                                                                       | 59                                                                                            | 0.021                                                                  | U  |    |                                                                        | 0.26  | U  | J                                                                      |    | 0.21  | U                                                                      | J  |    | 0.48                                                                    | U  | R  |                                                                         | 0.018  | U  |                                                                        |    | 0.018  | U                                                                      |    |    | 0.021                                                                   | U  |    |                                                                           | 0.02    | U  |                                                                        |    | 0.02   | U |  |  | 0.021  | U |   |  | 0.023  | U |   |  |  |
| Acetone                     | 67-64-1  | 630,000                                                        | 56,000                                                                      | 22                                                                                            | 0.023                                                                  |    |    |                                                                        | 0.14  | JB | BJ                                                                     |    | 0.12  | JB                                                                     | BJ |    | 0.48                                                                    | U  | R  |                                                                         | 0.0054 | J  |                                                                        |    | 0.0049 | J                                                                      |    |    | 0.005                                                                   | J  |    |                                                                           | 0.018   | J  |                                                                        |    | 0.0047 | J |  |  | 0.003  | J | J |  | 0.02   | J | J |  |  |
| Acetonitrile                | 75-05-8  | 3,700                                                          | 2,000                                                                       | 0.57                                                                                          | 0.55                                                                   | U  |    |                                                                        | 0.64  | U  | J                                                                      |    | 0.53  | U                                                                      | J  |    | 1.2                                                                     | U  | R  |                                                                         | 0.46   | U  |                                                                        |    | 0.47   | U                                                                      |    |    | 0.52                                                                    | U  |    |                                                                           | 0.52    | U  |                                                                        |    | 0.47   | U |  |  | 0.53   | U |   |  | 0.56   | U |   |  |  |
| Acrolein                    | 107-02-8 | 0.65                                                           | 0.31                                                                        | 0.0002                                                                                        | 0.1                                                                    | U  |    |                                                                        | 1.3   | U  | J                                                                      |    | 1.1   | U                                                                      | J  |    | 2.4                                                                     | U  | R  |                                                                         | 0.091  | U  |                                                                        |    | 0.089  | U                                                                      |    |    | 0.11                                                                    | U  |    |                                                                           | 0.099   | U  |                                                                        |    | 0.099  | U |  |  | 0.11   | U |   |  | 0.11   | U |   |  |  |
| Acrylonitrile               | 107-13-1 | 1.2                                                            | 5.2                                                                         | 0.00016                                                                                       | 0.1                                                                    | U  |    |                                                                        | 1.3   | U  | J                                                                      |    | 1.1   | U                                                                      | J  |    | 2.4                                                                     | U  | R  |                                                                         | 0.091  | U  |                                                                        |    | 0.089  | U                                                                      |    |    | 0.11                                                                    | U  |    |                                                                           | 0.099   | U  |                                                                        |    | 0.099  | U |  |  | 0.11   | U |   |  | 0.11   | U |   |  |  |
| Allyl chloride              | 107-05-1 | 3.4                                                            | NS                                                                          | NS                                                                                            | 0.055                                                                  | U  |    |                                                                        | 0.064 | U  | J                                                                      |    | 0.053 | U                                                                      | J  |    | 0.12                                                                    | U  | R  |                                                                         | 0.0    |    |                                                                        |    |        |                                                                        |    |    |                                                                         |    |    |                                                                           |         |    |                                                                        |    |        |   |  |  |        |   |   |  |        |   |   |  |  |

Table 17  
AOC 2 Soil Sample Results for Volatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:            |          | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil De<br>Minimis Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water Soil<br>De Minimis Level<br>mg/Kg | AOC2-12<br>AOC2-12-9.0<br>A9G110141007<br>07/10/2009<br>9-9.5<br>mg/Kg |    |    | AOC2-13<br>AOC2-13-7.0<br>A9G110141006<br>07/10/2009<br>7-8<br>mg/Kg |        |    | AOC2-14<br>AOC2-14-9.0<br>A9G110141005<br>07/10/2009<br>9-9.5<br>mg/Kg |    |         | AOC2-15<br>AOC2-15-11.0<br>A9G110141004<br>07/10/2009<br>11-11.5<br>mg/Kg |    |    | AOC2-16<br>AOC2-16-10.0<br>A9G110141003<br>07/10/2009<br>10-10.5<br>mg/Kg |    |    | AOC2-17<br>AOC2-17-11.0<br>A9G100171013<br>07/09/2009<br>11-11.5<br>mg/Kg |             |    | AOC2-18<br>AOC2-18-11.0<br>A9G100171012<br>07/09/2009<br>11-11.5<br>mg/Kg |    |              | AOC2-19<br>AOC2-19-10.0<br>A9G100171011<br>07/09/2009<br>10-10.5<br>mg/Kg |    |    | AOC2-20<br>AOC2-20-9.5<br>A9G100171010<br>07/09/2009<br>9.5-10<br>mg/Kg |    |    | AOC2-03<br>AOC2-21-8.0<br>A9G150161006<br>07/13/2009<br>8-8.5<br>mg/Kg |    |    |         |   |   |       |    |    |
|-----------------------------|----------|----------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----|----|----------------------------------------------------------------------|--------|----|------------------------------------------------------------------------|----|---------|---------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|-------------|----|---------------------------------------------------------------------------|----|--------------|---------------------------------------------------------------------------|----|----|-------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|---------|---|---|-------|----|----|
| Soil Sample ID:             |          |                                                                |                                                                             |                                                                                               | Result/RL                                                              | LQ | DV | Result/RL                                                            | LQ     | DV | Result/RL                                                              | LQ | DV      | Result/RL                                                                 | LQ | DV | Result/RL                                                                 | LQ | DV | Result/RL                                                                 | LQ          | DV | Result/RL                                                                 | LQ | DV           | Result/RL                                                                 | LQ | DV | Result/RL                                                               | LQ | DV | Result/RL                                                              | LQ | DV |         |   |   |       |    |    |
| Laboratory Sample ID:       |          |                                                                |                                                                             |                                                                                               |                                                                        |    |    |                                                                      |        |    |                                                                        |    |         |                                                                           |    |    |                                                                           |    |    |                                                                           |             |    |                                                                           |    |              |                                                                           |    |    |                                                                         |    |    |                                                                        |    |    |         |   |   |       |    |    |
| Sample Date:                |          |                                                                |                                                                             |                                                                                               |                                                                        |    |    |                                                                      |        |    |                                                                        |    |         |                                                                           |    |    |                                                                           |    |    |                                                                           |             |    |                                                                           |    |              |                                                                           |    |    |                                                                         |    |    |                                                                        |    |    |         |   |   |       |    |    |
| Sample Depth:               |          |                                                                |                                                                             |                                                                                               |                                                                        |    |    |                                                                      |        |    |                                                                        |    |         |                                                                           |    |    |                                                                           |    |    |                                                                           |             |    |                                                                           |    |              |                                                                           |    |    |                                                                         |    |    |                                                                        |    |    |         |   |   |       |    |    |
| Concentration Unit:         |          |                                                                |                                                                             |                                                                                               |                                                                        |    |    |                                                                      |        |    |                                                                        |    |         |                                                                           |    |    |                                                                           |    |    |                                                                           |             |    |                                                                           |    |              |                                                                           |    |    |                                                                         |    |    |                                                                        |    |    |         |   |   |       |    |    |
| Chemical Name               | CAS RN   |                                                                |                                                                             |                                                                                               |                                                                        |    |    |                                                                      |        |    |                                                                        |    |         |                                                                           |    |    |                                                                           |    |    |                                                                           |             |    |                                                                           |    |              |                                                                           |    |    |                                                                         |    |    |                                                                        |    |    |         |   |   |       |    |    |
| 1,1,1,2-Tetrachloroethane   | 630-20-6 | 9.3                                                            | 71                                                                          | 0.0031                                                                                        | 0.0042                                                                 | U  |    |                                                                      | 0.0049 | U  |                                                                        |    | 0.0049  | U                                                                         |    |    | 0.047                                                                     | U  |    |                                                                           | 0.05        | U  | J                                                                         |    | 0.066        | U                                                                         |    |    | 0.26                                                                    | U  | L  | 0.0051                                                                 | U  |    | 0.0052  | U |   | 0.055 | U  |    |
| 1,1,1-Trichloroethane       | 71-55-6  | 38,000                                                         | 710                                                                         | 2.1                                                                                           | 0.0042                                                                 | U  |    |                                                                      | 0.0049 | U  |                                                                        |    | 0.0049  | U                                                                         |    |    | 0.047                                                                     | U  |    |                                                                           | 0.05        | U  | J                                                                         |    | 0.066        | U                                                                         |    |    | 0.26                                                                    | U  | L  | 0.0051                                                                 | U  |    | 0.0052  | U |   | 0.055 | U  |    |
| 1,1,2,2-Tetrachloroethane   | 79-34-5  | 2.8                                                            | 9                                                                           | 0.0004                                                                                        | 0.0042                                                                 | U  |    |                                                                      | 0.0049 | U  |                                                                        |    | 0.0049  | U                                                                         |    |    | 0.047                                                                     | U  |    |                                                                           | 0.05        | U  | J                                                                         |    | <u>0.058</u> | J                                                                         |    |    | 0.26                                                                    | U  | L  | 0.0051                                                                 | U  |    | 0.0052  | U |   | 0.055 | U  |    |
| 1,1,2-Trichloroethane       | 79-00-5  | 5.3                                                            | 19                                                                          | 0.035                                                                                         | 0.0042                                                                 | U  |    |                                                                      | 0.0049 | U  |                                                                        |    | 0.0049  | U                                                                         |    |    | 0.047                                                                     | U  |    |                                                                           | 0.05        | U  | J                                                                         |    | 0.066        | U                                                                         |    |    | 0.26                                                                    | U  | L  | 0.0051                                                                 | U  |    | 0.0052  | U |   | 0.055 | U  |    |
| 1,1-Dichloroethane          | 75-34-3  | 17                                                             | 1,600                                                                       | 5.9                                                                                           | 0.0042                                                                 | U  |    |                                                                      | 0.0049 | U  |                                                                        |    | 0.0049  | U                                                                         |    |    | 0.047                                                                     | U  |    |                                                                           | 0.05        | U  | J                                                                         |    | 0.066        | U                                                                         |    |    | 0.26                                                                    | U  | L  | 0.0051                                                                 | U  |    | 0.0052  | U |   | 0.055 | U  |    |
| 1,1-Dichloroethene          | 75-35-4  | 1,100                                                          | 430                                                                         | 0.059                                                                                         | 0.0042                                                                 | U  |    |                                                                      | 0.0049 | U  |                                                                        |    | 0.0049  | U                                                                         |    |    | 0.047                                                                     | U  |    |                                                                           | 0.05        | U  | J                                                                         |    | 0.066        | U                                                                         |    |    | 0.26                                                                    | U  | L  | 0.0051                                                                 | U  |    | 0.0052  | U |   | 0.055 | U  |    |
| 1,2,3-Trichloropropane      | 96-18-4  | 0.095                                                          | 11                                                                          | 0.00027                                                                                       | 0.0042                                                                 | U  |    |                                                                      | 0.0049 | U  |                                                                        |    | 0.0049  | U                                                                         |    |    | 0.047                                                                     | U  |    |                                                                           | 0.05        | U  | J                                                                         |    | 0.066        | U                                                                         |    |    | 0.26                                                                    | U  | L  | 0.0051                                                                 | U  |    | 0.0052  | U |   | 0.055 | U  |    |
| 1,2-Dibromo-3-chloropropane | 96-12-8  | 0.069                                                          | 71                                                                          | 0.001                                                                                         | 0.0085                                                                 | U  |    |                                                                      | 0.0098 | U  |                                                                        |    | 0.0097  | U                                                                         |    |    | 0.094                                                                     | U  |    |                                                                           | 0.099       | U  | J                                                                         |    | 0.13         | U                                                                         |    |    | 0.52                                                                    | U  | L  | 0.01                                                                   | U  |    | 0.01    | U |   | 0.11  | U  |    |
| 1,2-Dibromoethane (EDB)     | 106-93-4 | 0.17                                                           | 0.62                                                                        | 0.00026                                                                                       | 0.0042                                                                 | U  |    |                                                                      | 0.0049 | U  |                                                                        |    | 0.0049  | U                                                                         |    |    | 0.047                                                                     | U  |    |                                                                           | 0.05        | U  | J                                                                         |    | 0.066        | U                                                                         |    |    | 0.26                                                                    | U  | L  | 0.0051                                                                 | U  |    | 0.0052  | U |   | 0.055 | U  |    |
| 1,2-Dichloroethane          | 107-06-2 | 2.2                                                            | 7.7                                                                         | 0.028                                                                                         | 0.0042                                                                 | U  |    |                                                                      | 0.0049 | U  |                                                                        |    | 0.0049  | U                                                                         |    |    | 0.047                                                                     | U  |    |                                                                           | 0.05        | U  | J                                                                         |    | 0.066        | U                                                                         |    |    | 0.26                                                                    | U  | L  | 0.0051                                                                 | U  |    | 0.0052  | U |   | 0.055 | U  |    |
| 1,2-Dichloropropane         | 78-87-5  | 4.5                                                            | 14                                                                          | 0.03                                                                                          | 0.0042                                                                 | U  |    |                                                                      | 0.0049 | U  |                                                                        |    | 0.0049  | U                                                                         |    |    | 0.047                                                                     | U  |    |                                                                           | 0.05        | U  | J                                                                         |    | 0.066        | U                                                                         |    |    | 0.26                                                                    | U  | L  | 0.0051                                                                 | U  |    | 0.0052  | U |   | 0.055 | U  |    |
| 1,4-Dioxane                 | 123-91-1 | 160                                                            | 2,200                                                                       | 0.026                                                                                         | 0.21                                                                   | U  | R  |                                                                      | 0.25   | U  | R                                                                      |    | 0.24    | U                                                                         | R  |    | 2.4                                                                       | U  | R  |                                                                           | 2.5         | U  | R                                                                         |    | 3.3          | U                                                                         | R  |    | 13                                                                      | U  | R  | 0.25                                                                   | U  | R  | 0.26    | U | R | 2.8   | U  | R  |
| 2-Butanone (MEK)            | 78-93-3  | 190,000                                                        | 56,000                                                                      | 29                                                                                            | 0.0022                                                                 | J  |    |                                                                      | 0.0056 | J  |                                                                        |    | 0.0039  | J                                                                         |    |    | 0.19                                                                      | U  |    |                                                                           | 0.2         | U  | J                                                                         |    | 0.18         | JB                                                                        | B  |    | 1                                                                       | U  | L  | 0.0018                                                                 | J  |    | 0.0019  | J |   | 0.22  | U  |    |
| 2-Hexanone                  | 591-78-6 | 1,400                                                          | NS                                                                          | NS                                                                                            | 0.017                                                                  | U  |    |                                                                      | 0.02   | U  |                                                                        |    | 0.019   | U                                                                         |    |    | 0.19                                                                      | U  |    |                                                                           | 0.2         | U  | J                                                                         |    | 0.26         | U                                                                         |    |    | 1                                                                       | U  | L  | 0.02                                                                   | U  |    | 0.021   | U |   | 0.22  | U  |    |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | 53,000                                                         | 8,900                                                                       | 59                                                                                            | 0.017                                                                  | U  |    |                                                                      | 0.02   | U  |                                                                        |    | 0.019   | U                                                                         |    |    | 0.19                                                                      | U  |    |                                                                           | 0.2         | U  | J                                                                         |    | 0.26         | U                                                                         |    |    | 1                                                                       | U  | L  | 0.02                                                                   | U  |    | 0.021   | U |   | 0.22  | U  |    |
| Acetone                     | 67-64-1  | 630,000                                                        | 56,000                                                                      | 22                                                                                            | 0.032                                                                  |    | J  |                                                                      | 0.049  |    | J                                                                      |    | 0.048   |                                                                           | J  |    | 0.19                                                                      | U  |    |                                                                           | 0.1         |    | JB                                                                        | BJ | 0.26         | U                                                                         |    |    | 1                                                                       | U  | L  | 0.011                                                                  | J  | B  | 0.017   | J | B | 0.11  | JB | BJ |
| Acetonitrile                | 75-05-8  | 3,700                                                          | 2,000                                                                       | 0.57                                                                                          | 0.47                                                                   | U  |    |                                                                      | 0.47   | U  | J                                                                      |    | 0.52    | U                                                                         |    |    | 0.47                                                                      | U  |    |                                                                           | 0.5         | U  | J                                                                         |    | 0.66         | U                                                                         |    |    | 2.6                                                                     | U  | L  | 0.45                                                                   | U  | J  | 0.5     | U |   | 0.55  | U  |    |
| Acrolein                    | 107-02-8 | 0.65                                                           | 0.31                                                                        | 0.0002                                                                                        | 0.085                                                                  | U  |    |                                                                      | 0.098  | U  |                                                                        |    | 0.097   | U                                                                         |    |    | 0.94                                                                      | U  |    |                                                                           | 0.99        | U  | J                                                                         |    | 1.3          | U                                                                         |    |    | 5.2                                                                     | U  | L  | 0.1                                                                    | U  |    | 0.1     | U |   | 1.1   | U  |    |
| Acrylonitrile               | 107-13-1 | 1.2                                                            | 5.2                                                                         | 0.00016                                                                                       | 0.085                                                                  | U  |    |                                                                      | 0.098  | U  |                                                                        |    | 0.097   | U                                                                         |    |    | 0.94                                                                      | U  |    |                                                                           | 0.99        | U  | J                                                                         |    | 1.3          | U                                                                         |    |    | 5.2                                                                     | U  | L  | 0.1                                                                    | U  |    | 0.1     | U |   | 1.1   | U  |    |
| Allyl chloride              | 107-05-1 | 3.4                                                            | NS                                                                          | NS                                                                                            | 0.047                                                                  | U  |    |                                                                      | 0.047  | U  | J                                                                      |    | 0.052   | U                                                                         |    |    | 0.047                                                                     | U  |    |                                                                           | 0.05        | U  | J                                                                         |    | 0.066        | U                                                                         |    |    | 0.26                                                                    | U  | L  | 0.045                                                                  | U  | J  | 0.05    | U |   | 0.055 | U  |    |
| Benzene                     | 71-43-2  | 5.4                                                            | 15                                                                          | 0.034                                                                                         | 0.0042                                                                 | U  |    |                                                                      | 0.0049 | U  |                                                                        |    | 0.00058 | J                                                                         |    |    | 0.047                                                                     | U  |    |                                                                           | <u>0.76</u> |    | J                                                                         |    | <u>0.04</u>  | J                                                                         |    |    | <u>2.6</u>                                                              |    | L  | 0.0051                                                                 | U  |    | 0.00039 | J |   | 0.012 | J  |    |
| Bromodichloromethane        | 75-27-4  | 1.4                                                            | 24                                                                          | 0.0015                                                                                        | 0.0042                                                                 | U  |    |                                                                      | 0.0049 | U  |                                                                        |    | 0.0049  | U                                                                         |    |    | 0.047                                                                     | U  |    |                                                                           | 0.05        | U  | J                                                                         |    | 0.066        | U                                                                         |    |    | 0.26                                                                    | U  | L  | 0.0051                                                                 | U  |    | 0.0052  | U |   | 0.055 | U  |    |
| Bromoform                   | 75-25-2  | 220                                                            | 3,100                                                                       | 0.064                                                                                         | 0.0042                                                                 | U  |    |                                                                      | 0.0049 | U  |                                                                        |    | 0.0049  | U                                                                         |    |    | 0.047                                                                     | U  |    |                                                                           | 0.05        | U  | J                                                                         |    | 0.066        | U                                                                         |    |    | 0.26                                                                    | U  | L  | 0.0051                                                                 | U  |    | 0.0052  | U |   | 0.055 | U  |    |
| Bromomethane                | 74-83-9  | 32                                                             | 13                                                                          | 0.042                                                                                         | 0.0042                                                                 | U  |    |                                                                      | 0.0049 | U  |                                                                        |    | 0.0049  | U                                                                         |    |    | 0.047                                                                     | U  |    |                                                                           | 0.05        | U  | J                                                                         |    | 0.066        | U                                                                         |    |    | 0.26                                                                    | U  | L  | 0.0051                                                                 | U  | </ |         |   |   |       |    |    |

TABLE 18  
AOC 2 Soil Sample Results for Semi-Volatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

Table 18

| Boring Location:           |                       | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil De<br>Minimis Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC2-01<br>AOC2-01-7.0<br>A9G150161008<br>07/13/2009<br>7-7.5<br>mg/Kg |    |    | AOC2-02<br>AOC2-02-7.0<br>A9G150161007<br>07/13/2009<br>7-7.5<br>mg/Kg |        |    | AOC2-03<br>AOC2-03-8.0<br>A9G150161005<br>07/13/2009<br>8-8.5<br>mg/Kg |    |       | AOC2-04<br>AOC2-04-7.5<br>A9G150161009<br>07/13/2009<br>7.5-10<br>mg/Kg |    |    | AOC2-05<br>AOC2-05-9.5<br>A9G150150004<br>07/14/2009<br>9.5-10<br>mg/Kg |    |    | AOC2-06<br>AOC2-06-9.5<br>A9G150150003<br>07/14/2009<br>9.5-10<br>mg/Kg |        |    | AOC2-07<br>AOC2-07-9.0<br>A9G150161003<br>07/13/2009<br>9-9.5<br>mg/Kg |    |        | AOC2-08<br>AOC2-08-8.0<br>A9G150161004<br>07/13/2009<br>8-8.5<br>mg/Kg |    |        | AOC2-09<br>AOC2-09-9.5<br>A9G150150005<br>07/14/2009<br>9.5-10<br>mg/Kg |    |    | AOC2-10<br>AOC2-10-10.0<br>A9G110141009<br>40004.625<br>10-10.5<br>mg/Kg |    |    | AOC2-11<br>AOC2-11-6.5<br>A9G110141008<br>07/10/2009<br>6.5-7<br>mg/Kg |        |    |  |  |        |   |  |  |        |   |  |  |      |   |  |  |
|----------------------------|-----------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|--------|----|------------------------------------------------------------------------|----|-------|-------------------------------------------------------------------------|----|----|-------------------------------------------------------------------------|----|----|-------------------------------------------------------------------------|--------|----|------------------------------------------------------------------------|----|--------|------------------------------------------------------------------------|----|--------|-------------------------------------------------------------------------|----|----|--------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|--------|----|--|--|--------|---|--|--|--------|---|--|--|------|---|--|--|
| Soil Sample ID:            | Laboratory Sample ID: |                                                                |                                                                             |                                                                                                  | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ     | DV | Result/RL                                                              | LQ | DV    | Result/RL                                                               | LQ | DV | Result/RL                                                               | LQ | DV | Result/RL                                                               | LQ     | DV | Result/RL                                                              | LQ | DV     | Result/RL                                                              | LQ | DV     | Result/RL                                                               | LQ | DV | Result/RL                                                                | LQ | DV | Result/RL                                                              | LQ     | DV |  |  |        |   |  |  |        |   |  |  |      |   |  |  |
| Sample Date:               | Sample Depth:         |                                                                |                                                                             |                                                                                                  | CAS RN                                                                 |    |    |                                                                        |        |    |                                                                        |    |       |                                                                         |    |    |                                                                         |    |    |                                                                         |        |    |                                                                        |    |        |                                                                        |    |        |                                                                         |    |    |                                                                          |    |    |                                                                        |        |    |  |  |        |   |  |  |        |   |  |  |      |   |  |  |
| Concentration Unit:        |                       |                                                                |                                                                             |                                                                                                  |                                                                        |    |    |                                                                        |        |    |                                                                        |    |       |                                                                         |    |    |                                                                         |    |    |                                                                         |        |    |                                                                        |    |        |                                                                        |    |        |                                                                         |    |    |                                                                          |    |    |                                                                        |        |    |  |  |        |   |  |  |        |   |  |  |      |   |  |  |
| Chemical Name              |                       |                                                                |                                                                             |                                                                                                  |                                                                        |    |    |                                                                        |        |    |                                                                        |    |       |                                                                         |    |    |                                                                         |    |    |                                                                         |        |    |                                                                        |    |        |                                                                        |    |        |                                                                         |    |    |                                                                          |    |    |                                                                        |        |    |  |  |        |   |  |  |        |   |  |  |      |   |  |  |
| 1,2,4,5-Tetrachlorobenzene | 95-94-3               | 180                                                            | 260                                                                         | 0.66                                                                                             | 0.13                                                                   | U  |    |                                                                        | 0.14   | U  |                                                                        |    | 0.026 | J                                                                       |    |    | 0.21                                                                    | U  |    |                                                                         | 0.12   | U  |                                                                        |    | 0.12   | U                                                                      | J  | 0.13   | U                                                                       |    |    | 0.13                                                                     | U  |    |                                                                        | 0.13   | U  |  |  | 0.12   | U |  |  | 0.44   | U |  |  |      |   |  |  |
| 1,2,4-Trichlorobenzene     | 120-82-1              | 99                                                             | 20,000                                                                      | 4.9                                                                                              | 0.26                                                                   | U  |    |                                                                        | 0.07   | U  |                                                                        |    | 21    |                                                                         |    |    | 0.077                                                                   | J  |    |                                                                         | 0.061  | U  |                                                                        |    | 0.061  | U                                                                      | J  | 0.063  | U                                                                       |    |    | 0.064                                                                    | U  |    |                                                                        | 0.064  | U  |  |  | 0.062  | U |  |  | 0.21   | J |  |  |      |   |  |  |
| 1,2-Dichlorobenzene        | 95-50-1               | 9,800                                                          | 150                                                                         | 12                                                                                               | 0.066                                                                  | U  |    |                                                                        | 0.07   | U  |                                                                        |    | 0.068 |                                                                         | J  |    | 0.11                                                                    | U  |    |                                                                         | 0.061  | U  |                                                                        |    | 0.061  | U                                                                      | J  | 0.063  | U                                                                       |    |    | 0.064                                                                    | U  |    |                                                                        | 0.064  | U  |  |  | 0.062  | U |  |  | 0.22   | U |  |  |      |   |  |  |
| 1,2-Diphenylhydrazine      | 122-66-7              | 2.2                                                            | 31                                                                          | 0.0026                                                                                           | 0.066                                                                  | U  |    |                                                                        | 0.07   | U  |                                                                        |    | 0.067 | U                                                                       |    |    | 0.11                                                                    | U  |    |                                                                         | 0.061  | U  |                                                                        |    | 0.061  | U                                                                      | J  | 0.063  | U                                                                       |    |    | 0.064                                                                    | U  |    |                                                                        | 0.064  | U  |  |  | 0.062  | U |  |  | 0.22   | U |  |  |      |   |  |  |
| 1,3,5-Trinitrobenzene      | 99-35-4               | 27,000                                                         | 26,000                                                                      | 52                                                                                               | 2.1                                                                    | U  |    |                                                                        | 2.3    | U  |                                                                        |    | 2.2   | U                                                                       |    |    | 3.4                                                                     | U  |    |                                                                         | 2      | U  |                                                                        |    | 2      | U                                                                      | J  | 2      | U                                                                       |    |    | 2.1                                                                      | U  |    |                                                                        | 2.1    | U  |  |  | 2      | U |  |  | 7      | U |  |  |      |   |  |  |
| 1,3-Dichlorobenzene        | 541-73-1              | NS                                                             | 130                                                                         | 12                                                                                               | 0.066                                                                  | U  |    |                                                                        | 0.07   | U  |                                                                        |    | 0.15  |                                                                         | J  |    | 0.11                                                                    | U  |    |                                                                         | 0.061  | U  |                                                                        |    | 0.061  | U                                                                      | J  | 0.063  | U                                                                       |    |    | 0.064                                                                    | U  |    |                                                                        | 0.064  | U  |  |  | 0.062  | U |  |  | 0.22   | U |  |  |      |   |  |  |
| 1,3-Dinitrobenzene         | 99-65-0               | 62                                                             | 88                                                                          | 0.037                                                                                            | 0.44                                                                   | U  |    |                                                                        | 0.46   | U  |                                                                        |    | 0.44  | U                                                                       |    |    | 0.71                                                                    | U  |    |                                                                         | 0.4    | U  |                                                                        |    | 0.41   | U                                                                      | J  | 0.42   | U                                                                       |    |    | 0.42                                                                     | U  |    |                                                                        | 0.42   | U  |  |  | 0.42   | U |  |  | 1.4    | U |  |  |      |   |  |  |
| 1,4-Dichlorobenzene        | 106-46-7              | 12                                                             | 45                                                                          | 2.2                                                                                              | 0.066                                                                  | U  |    |                                                                        | 0.07   | U  |                                                                        |    | 5.6   |                                                                         |    |    | 0.11                                                                    | U  |    |                                                                         | 0.061  | U  |                                                                        |    | 0.061  | U                                                                      | J  | 0.063  | U                                                                       |    |    | 0.064                                                                    | U  |    |                                                                        | 0.064  | U  |  |  | 0.062  | U |  |  | 0.22   | U |  |  |      |   |  |  |
| 1,4-Naphthoquinone         | 130-15-4              | NS                                                             | NS                                                                          | NS                                                                                               | 0.44                                                                   | U  |    |                                                                        | 0.46   | U  |                                                                        |    | 0.44  | U                                                                       |    |    | 0.71                                                                    | U  |    |                                                                         | 0.4    | U  |                                                                        |    | 0.41   | U                                                                      | J  | 0.42   | U                                                                       |    |    | 0.42                                                                     | U  |    |                                                                        | 0.42   | U  |  |  | 0.42   | U |  |  | 1.4    | U |  |  |      |   |  |  |
| 1-Naphthylamine            | 134-32-7              | NS                                                             | NS                                                                          | NS                                                                                               | 0.44                                                                   | U  |    |                                                                        | 0.46   | U  |                                                                        |    | 0.44  | U                                                                       |    |    | 0.71                                                                    | U  |    |                                                                         | 0.4    | U  |                                                                        |    | 0.41   | U                                                                      | J  | 0.42   | U                                                                       |    |    | 0.42                                                                     | U  |    |                                                                        | 0.42   | U  |  |  | 0.42   | U |  |  | 1.4    | U |  |  |      |   |  |  |
| 2,3,4,6-Tetrachlorophenol  | 58-90-2               | 18,000                                                         | 26,000                                                                      | 92                                                                                               | 0.13                                                                   | U  |    |                                                                        | 0.14   | U  |                                                                        |    | 0.13  | U                                                                       |    |    | 0.21                                                                    | U  |    |                                                                         | 0.12   | U  |                                                                        |    | 0.12   | U                                                                      | J  | 0.13   | U                                                                       |    |    | 0.13                                                                     | U  |    |                                                                        | 0.13   | U  |  |  | 0.12   | U |  |  | 0.44   | U |  |  |      |   |  |  |
| 2,4,5-Trichlorophenol      | 95-95-4               | 62,000                                                         | 88,000                                                                      | 250                                                                                              | 0.2                                                                    | U  |    |                                                                        | 0.21   | U  |                                                                        |    | 0.2   | U                                                                       |    |    | 0.32                                                                    | U  |    |                                                                         | 0.18   | U  |                                                                        |    | 0.18   | U                                                                      | J  | 0.19   | U                                                                       |    |    | 0.19                                                                     | U  |    |                                                                        | 0.19   | U  |  |  | 0.19   | U |  |  | 0.65   | U |  |  |      |   |  |  |
| 2,4,6-Trichlorophenol      | 88-06-2               | 160                                                            | 2,200                                                                       | 0.12                                                                                             | 0.2                                                                    | U  |    |                                                                        | 0.21   | U  |                                                                        |    | 0.2   | U                                                                       |    |    | 0.32                                                                    | U  |    |                                                                         | 0.18   | U  |                                                                        |    | 0.18   | U                                                                      | J  | 0.19   | U                                                                       |    |    | 0.19                                                                     | U  |    |                                                                        | 0.19   | U  |  |  | 0.19   | U |  |  | 0.65   | U |  |  |      |   |  |  |
| 2,4-Dichlorophenol         | 120-83-2              | 1,800                                                          | 2,600                                                                       | 1.1                                                                                              | 0.2                                                                    | U  |    |                                                                        | 0.21   | U  |                                                                        |    | 0.037 | J                                                                       |    |    | 0.32                                                                    | U  |    |                                                                         | 0.18   | U  |                                                                        |    | 0.18   | U                                                                      | J  | 0.19   | U                                                                       |    |    | 0.19                                                                     | U  |    |                                                                        | 0.19   | U  |  |  | 0.19   | U |  |  | 0.65   | U |  |  |      |   |  |  |
| 2,4-Dimethylphenol         | 105-67-9              | 12,000                                                         | 18,000                                                                      | 9                                                                                                | 0.2                                                                    | U  |    |                                                                        | 0.21   | U  |                                                                        |    | 0.2   | U                                                                       |    |    | 0.32                                                                    | U  |    |                                                                         | 0.18   | U  |                                                                        |    | 0.18   | U                                                                      | J  | 0.19   | U                                                                       |    |    | 0.19                                                                     | U  |    |                                                                        | 0.19   | U  |  |  | 0.19   | U |  |  | 0.65   | U |  |  |      |   |  |  |
| 2,4-Dinitrophenol          | 51-28-5               | 1,200                                                          | 1,800                                                                       | 0.29                                                                                             | 0.44                                                                   | U  |    |                                                                        | 0.46   | U  |                                                                        |    | 0.44  | U                                                                       |    |    | 0.71                                                                    | U  |    |                                                                         | 0.4    | U  |                                                                        |    | 0.41   | U                                                                      | J  | 0.42   | U                                                                       |    |    | 0.42                                                                     | U  |    |                                                                        | 0.42   | U  |  |  | 0.42   | U |  |  | 1.4    | U |  |  |      |   |  |  |
| 2,4-Dinitrotoluene         | 121-14-2              | 5.5                                                            | 1,800                                                                       | 0.57                                                                                             | 0.27                                                                   | U  |    |                                                                        | 0.28   | U  |                                                                        |    | 0.27  | U                                                                       |    |    | 0.43                                                                    | U  |    |                                                                         | 0.25   | U  |                                                                        |    | 0.25   | U                                                                      | J  | 0.25   | U                                                                       |    |    | 0.26                                                                     | U  |    |                                                                        | 0.26   | U  |  |  | 0.26   | U |  |  | 0.25   | U |  |  | 0.87 | U |  |  |
| 2,6-Dichlorophenol         | 87-65-0               | NS                                                             | NS                                                                          | NS                                                                                               | 0.27                                                                   | U  |    |                                                                        | 0.28   | U  |                                                                        |    | 0.27  | U                                                                       |    |    | 0.43                                                                    | U  |    |                                                                         | 0.25   | U  |                                                                        |    | 0.25   | U                                                                      | J  | 0.25   | U                                                                       |    |    | 0.26                                                                     | U  |    |                                                                        | 0.26   | U  |  |  | 0.26   | U |  |  | 0.25   | U |  |  | 0.87 | U |  |  |
| 2,6-Dinitrotoluene         | 606-20-2              | 620                                                            | 890                                                                         | 0.25                                                                                             | 0.27                                                                   | U  |    |                                                                        | 0.28   | U  |                                                                        |    | 0.27  | U                                                                       |    |    | 0.43                                                                    | U  |    |                                                                         | 0.25   | U  |                                                                        |    | 0.25   | U                                                                      | J  | 0.25   | U                                                                       |    |    | 0.26                                                                     | U  |    |                                                                        | 0.26   | U  |  |  | 0.26   | U |  |  | 0.25   | U |  |  | 0.87 | U |  |  |
| 2-Acetylaminofluorene      | 53-96-3               | 0.45                                                           | NS                                                                          | NS                                                                                               | 0.44                                                                   | U  |    |                                                                        | 0.46   | U  |                                                                        |    | 0.44  | U                                                                       |    |    | 0.71                                                                    | U  |    |                                                                         | 0.4    | U  |                                                                        |    | 0.41   | U                                                                      |    | 0.42   | U                                                                       |    |    | 0.42                                                                     | U  |    |                                                                        | 0.42   | U  |  |  | 0.42   | U |  |  | 1.4    | U |  |  |      |   |  |  |
| 2-Chloronaphthalene        | 91-58-7               | 82,000                                                         | 27,000                                                                      | 32                                                                                               | 0.066                                                                  | U  |    |                                                                        | 0.07   | U  |                                                                        |    | 0.067 | U                                                                       |    |    | 0.11                                                                    | U  |    |                                                                         | 0.061  | U  |                                                                        |    | 0.061  | U                                                                      | J  | 0.063  | U                                                                       |    |    | 0.064                                                                    | U  |    |                                                                        | 0.064  | U  |  |  | 0.062  | U |  |  | 0.22   | U |  |  |      |   |  |  |
| 2-Chlorophenol             | 95-57-8               | 5,100                                                          | 240                                                                         | 0.61                                                                                             | 0.066                                                                  | U  |    |                                                                        | 0.07   | U  |                                                                        |    | 0.067 | U                                                                       |    |    | 0.11                                                                    | U  |    |                                                                         | 0.061  | U  |                                                                        |    | 0.061  | U                                                                      | J  | 0.063  | U                                                                       |    |    | 0.064                                                                    | U  |    |                                                                        | 0.064  | U  |  |  | 0.062  | U |  |  | 0.22   | U |  |  |      |   |  |  |
| 2-Methylnaphthalene        | 91-57-6               | 4,100                                                          | NS                                                                          | NS                                                                                               | 0.0089                                                                 | U  |    |                                                                        | 0.0094 | U  |                                                                        |    | 0.009 | U                                                                       |    |    | 0.014                                                                   | U  |    |                                                                         | 0.0082 | U  |                                                                        |    | 0.0082 | U                                                                      | J  | 0.0084 | U                                                                       |    |    | 0.0086                                                                   | U  |    |                                                                        | 0.0086 | U  |  |  | 0.0086 | U |  |  | 0.0083 | U |  |  | 0.12 |   |  |  |
| 2-Methylphenol             | 95-48-7               | 31,000                                                         | 44,000                                                                      |                                                                                                  |                                                                        |    |    |                                                                        |        |    |                                                                        |    |       |                                                                         |    |    |                                                                         |    |    |                                                                         |        |    |                                                                        |    |        |                                                                        |    |        |                                                                         |    |    |                                                                          |    |    |                                                                        |        |    |  |  |        |   |  |  |        |   |  |  |      |   |  |  |

TABLE 18  
AOC 2 Soil Sample Results for Semi-Volatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

Table 18

| Boring Location:                  |           |         |         |          | AOC2-01      |    |    | AOC2-02      |    |    | AOC2-03      |    |    | AOC2-04      |    |    | AOC2-05      |    |    | AOC2-06      |    |    | AOC2-07      |    |    | AOC2-08      |    |    | AOC2-09      |    |    | AOC2-10      |   |           | AOC2-11      |   |  |
|-----------------------------------|-----------|---------|---------|----------|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|--------------|----|----|--------------|---|-----------|--------------|---|--|
| Soil Sample ID:                   |           |         |         |          | AOC2-01-7.0  |    |    | AOC2-02-7.0  |    |    | AOC2-03-8.0  |    |    | AOC2-04-7.5  |    |    | AOC2-05-9.5  |    |    | AOC2-06-9.5  |    |    | AOC2-07-9.0  |    |    | AOC2-08-8.0  |    |    | AOC2-09-9.5  |    |    | AOC2-10-10.0 |   |           | AOC2-11-6.5  |   |  |
| Laboratory Sample ID:             |           |         |         |          | A9G150161008 |    |    | A9G150161007 |    |    | A9G150161005 |    |    | A9G150161009 |    |    | A9G150150004 |    |    | A9G150150003 |    |    | A9G150161003 |    |    | A9G150161004 |    |    | A9G150150005 |    |    | A9G110141009 |   |           | A9G110141008 |   |  |
| Sample Date:                      |           |         |         |          | 07/13/2009   |    |    | 07/13/2009   |    |    | 07/13/2009   |    |    | 07/13/2009   |    |    | 07/14/2009   |    |    | 07/14/2009   |    |    | 07/13/2009   |    |    | 07/13/2009   |    |    | 07/14/2009   |    |    | 40004.625    |   |           | 07/10/2009   |   |  |
| Sample Depth:                     |           |         |         |          | 7-7.5        |    |    | 7-7.5        |    |    | 7-7.5        |    |    | 7.5-8        |    |    | 8-8.5        |    |    | 9.5-10       |    |    | 9-9.5        |    |    | 10-10.5      |    |    | 10-10.5      |    |    | 6.5-7        |   |           |              |   |  |
| Concentration Unit:               |           |         |         |          | mg/Kg        |    |    | mg/Kg        |    |    | mg/Kg        |    |    | mg/Kg        |    |    | mg/Kg        |    |    | mg/Kg        |    |    | mg/Kg        |    |    | mg/Kg        |    |    | mg/Kg        |    |    | mg/Kg        |   |           | mg/Kg        |   |  |
| Chemical Name                     |           | CAS RN  |         |          | Result/RL    | LQ | DV | Result/RL    | LQ | DV | Result/RL    | LQ | DV | Result/RL    | LQ | DV | Result/RL    | LQ | DV | Result/RL    | LQ | DV | Result/RL    | LQ | DV | Result/RL    | LQ | DV | Result/RL    | LQ | DV | Result/RL    | Q | Result/RL | Q            |   |  |
| 5-Nitro-o-toluidine               | 99-55-8   | 52      | 750     | 0.015    | 0.44         | U  |    | 0.46         | U  |    | 0.44         | U  |    | 0.71         | U  |    | 0.4          | U  |    | 0.41         | U  | J  | 0.42         | U  |    | 0.42         | U  |    | 0.42         | U  |    | 0.41         | U |           | 1.4          | U |  |
| 7,12-Dimethylbenz(a)anthracene    | 57-97-6   | 0.0062  | NS      | NS       | 0.44         | U  |    | 0.46         | U  |    | 0.44         | U  |    | 0.71         | U  |    | 0.4          | U  |    | 0.41         | U  |    | 0.42         | U  |    | 0.42         | U  |    | 0.42         | U  |    | 0.41         | U |           | 1.4          | U |  |
| a,a-Dimethylphenethylamine        | 122-09-8  | NS      | NS      | NS       | 0.88         | U  |    | 0.93         | U  |    | 0.89         | U  |    | 1.4          | U  |    | 0.81         | U  |    | 0.81         | U  | J  | 0.83         | U  |    | 0.85         | U  |    | 0.85         | U  |    | 0.82         | U |           | 2.9          | U |  |
| Acenaphthene                      | 83-32-9   | 33,000  | 38,000  | 73       | 0.0089       | U  |    | 0.0094       | U  |    | 0.009        | U  |    | 0.014        | U  |    | 0.0082       | U  |    | 0.0082       | U  | J  | 0.0084       | U  |    | 0.0086       | U  |    | 0.0086       | U  |    | 0.0083       | U |           | 0.15         |   |  |
| Acenaphthylene                    | 208-96-8  | NS      | 44,000  | 91       | 0.0089       | U  |    | 0.0094       | U  |    | 0.009        | U  |    | 0.014        | U  |    | 0.0082       | U  |    | 0.0082       | U  | J  | 0.0084       | U  |    | 0.0086       | U  |    | 0.0086       | U  |    | 0.0083       | U |           | 0.029        | U |  |
| Acetophenone                      | 98-86-2   | 100,000 | 25,000  | 3.2      | 0.13         | U  |    | 0.14         | U  |    | 0.13         | U  |    | 0.21         | U  |    | 0.12         | U  |    | 0.12         | U  | J  | 0.13         | U  |    | 0.13         | U  |    | 0.13         | U  |    | 0.12         | U |           | 0.44         | U |  |
| Aniline                           | 62-53-3   | 300     | 4,300   | 0.14     | 0.3          | J  |    | 0.04         | J  |    | 0.44         | U  |    | 0.059        | J  |    | 0.4          | U  |    | 0.023        | J  | J  | 0.051        | J  |    | 0.035        | J  |    | 0.066        | J  |    | 0.18         | J |           | 1.4          | U |  |
| Anthracene                        | 120-12-7  | 170,000 | 390,000 | 1,700    | 0.0089       | U  |    | 0.0094       | U  |    | 0.009        | U  |    | 0.014        | U  |    | 0.0082       | U  |    | 0.0082       | U  | J  | 0.0084       | U  |    | 0.0086       | U  |    | 0.0086       | U  |    | 0.0083       | U |           | 0.96         |   |  |
| Aramite                           | 140-57-8  | 69      | NS      | NS       | 0.44         | U  |    | 0.46         | U  |    | 0.44         | U  |    | 0.71         | U  |    | 0.4          | U  |    | 0.41         | U  | J  | 0.42         | U  |    | 0.42         | U  |    | 0.42         | U  |    | 0.41         | U |           | 1.4          | U |  |
| Benzidine                         | 92-87-5   | 0.0075  | 0.11    | 0.000033 | 0.44         | U  |    | 0.46         | U  |    | 0.44         | U  |    | 0.71         | U  |    | 0.4          | U  |    | 0.41         | U  | J  | 0.42         | U  |    | 0.42         | U  |    | 0.42         | U  |    | 0.41         | U |           | 1.4          | U |  |
| Benzo(a)anthracene                | 56-55-3   | 2.1     | 29      | 1.5      | 0.0089       | U  |    | 0.0094       | U  |    | 0.009        | U  |    | 0.014        | U  |    | 0.0082       | U  |    | 0.0082       | U  | J  | 0.0084       | U  |    | 0.0086       | U  |    | 0.0086       | U  |    | 0.0083       | U |           | 2.2          |   |  |
| Benzo(a)pyrene                    | 50-32-8   | 0.21    | 2.9     | 8.2      | 0.0089       | U  |    | 0.0094       | U  |    | 0.009        | U  |    | 0.014        | U  |    | 0.0082       | U  |    | 0.0082       | U  |    | 0.0084       | U  |    | 0.013        |    |    | 0.0086       | U  |    | 0.0083       | U |           | 1.3          |   |  |
| Benzo(b)fluoranthene              | 205-99-2  | 2.1     | 29      | 4.5      | 0.015        |    |    | 0.0094       | U  |    | 0.009        | U  |    | 0.014        | U  |    | 0.0082       | U  |    | 0.0082       | U  |    | 0.0084       | U  |    | 0.022        |    |    | 0.0086       | U  |    | 0.0083       | U |           | 1.7          |   |  |
| Benzo(ghi)perylene                | 191-24-2  | NS      | 23,000  | 120,000  | 0.0089       | U  |    | 0.0094       | U  |    | 0.009        | U  |    | 0.014        | U  |    | 0.0082       | U  |    | 0.0082       | U  |    | 0.0084       | U  |    | 0.0086       | U  |    | 0.0086       | U  |    | 0.0083       | U |           | 0.53         |   |  |
| Benzo(k)fluoranthene              | 207-08-9  | 21      | 290     | 45       | 0.0089       | U  |    | 0.0094       | U  |    | 0.009        | U  |    | 0.014        | U  |    | 0.0082       | U  |    | 0.0082       | U  |    | 0.0084       | U  |    | 0.0086       | U  |    | 0.0086       | U  |    | 0.0083       | U |           | 0.75         |   |  |
| Benzyl alcohol                    | 100-51-6  | 62,000  | 440,000 | 150      | 0.44         | U  |    | 0.46         | U  |    | 0.44         | U  |    | 0.71         | U  |    | 0.4          | U  |    | 0.41         | U  | J  | 0.42         | U  |    | 0.42         | U  |    | 0.42         | U  |    | 0.41         | U |           | 1.4          | U |  |
| bis(2-Chloro-1-methylethyl) ether | 108-60-1  | 22      | 81      | 0.0018   | 0.13         | U  |    | 0.14         | U  |    | 0.13         | U  |    | 0.21         | U  |    | 0.12         | U  |    | 0.12         | U  | J  | 0.13         | U  |    | 0.13         | U  |    | 0.13         | U  |    | 0.12         | U |           | 0.44         | U |  |
| bis(2-Chloroethoxy)methane        | 111-91-1  | 1,800   | NS      | NS       | 0.13         | U  |    | 0.14         | U  |    | 0.13         | U  |    | 0.21         | U  |    | 0.12         | U  |    | 0.12         | U  | J  | 0.13         | U  |    | 0.13         | U  |    | 0.13         | U  |    | 0.12         | U |           | 0.44         | U |  |
| bis(2-Chloroethyl) ether          | 111-44-4  | 1.0     | 6       | 0.56     | 0.13         | U  |    | 0.14         | U  |    | 0.13         | U  |    | 0.21         | U  |    | 0.12         | U  |    | 0.12         | U  | J  | 0.13         | U  |    | 0.13         | U  |    | 0.13         | U  |    | 0.12         | U |           | 0.44         | U |  |
| bis(2-Ethylhexyl) phthalate       | 117-81-7  | 120     | 1,800   | 3,600    | 0.076        |    |    | 0.07         | U  |    | 0.067        | U  |    | 0.11         | U  |    | 0.061        | U  |    | 0.061        | U  | J  | 0.063        | U  |    | 0.064        | U  |    | 0.064        | U  |    | 0.062        | U |           | 0.22         | U |  |
| Butyl benzyl phthalate            | 85-68-7   | 910     | 180,000 | 17,000   | 0.066        | U  |    | 0.07         | U  |    | 0.067        | U  |    | 0.11         | U  |    | 0.061        | U  |    | 0.061        | U  | J  | 0.063        | U  |    | 0.064        | U  |    | 0.064        | U  |    | 0.062        | U |           | 0.22         | U |  |
| Chlorobenzilate                   | 510-15-6  | 16      | 91      | 0.027    | 0.44         | U  |    | 0.46         | U  |    | 0.44         | U  |    | 0.71         | U  |    | 0.4          | U  |    | 0.41         | U  | J  | 0.42         | U  |    | 0.42         | U  |    | 0.42         | U  |    | 0.41         | U |           | 1.4          | U |  |
| Chrysene                          | 218-01-9  | 210     | 2900    | 150      | 0.0089       | U  |    | 0.0094       | U  |    | 0.009        | U  |    | 0.014        | U  |    | 0.0082       | U  |    | 0.0082       | U  | J  | 0.0084       | U  |    | 0.0086       | U  |    | 0.0086       | U  |    | 0.0083       | U |           | 1.8          |   |  |
| Diallate                          | 2303-16-4 | 28      | NS      | NS       | 0.44         | U  |    | 0.46         | U  |    | 0.44         | U  |    | 0.71         | U  |    | 0.4          | U  |    | 0.41         | U  | J  | 0.42         | U  |    | 0.42         | U  |    | 0.42         | U  |    | 0.41         | U |           | 1.4          | U |  |
| Dibenz(a,h)anthracene             | 53-70-3   | 0.21    | 2.9     | 1.4      | 0.0089       | U  |    | 0.0094       | U  |    | 0.009        | U  |    | 0.014        | U  |    | 0.0082       | U  |    | 0.0082       | U  |    | 0.0084       | U  |    | 0.0086       | U  |    | 0.0086       | U  |    | 0.0083       | U |           | 0.16         |   |  |
| Dibenzofuran                      | 132-64-9  | 1,000   | 2,000   | 11       | 0.066        | U  |    | 0.07         | U  |    | 0.067        | U  |    | 0.11         | U  |    | 0.061        | U  |    | 0.061        | U  | J  | 0.063        | U  |    | 0.064        | U  |    | 0.064        | U  |    | 0.062        | U |           | 0.22         | U |  |
| Diethyl phthalate                 | 84-66-2   | 490,000 | 700,000 | 450      | 0.066        | U  |    | 0.07         | U  |    | 0.067        | U  |    | 0.11         | U  |    | 0.061        | U  |    | 0.061        | U  | J  | 0.063        | U  |    | 0.064        | U  |    | 0.064        | U  |    | 0.062        | U |           | 0.22         | U |  |
| Dimethoate                        | 60-51-5   | 120     | NS      | NS       | 0.44         |    |    |              |    |    |              |    |    |              |    |    |              |    |    |              |    |    |              |    |    |              |    |    |              |    |    |              |   |           |              |   |  |

TABLE 18  
AOC 2 Soil Sample Results for Semi-Volatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

Table 18

| Boring Location:                |            | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil De<br>Minimis Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC2-01      |       | AOC2-02      |           | AOC2-03      |       | AOC2-04      |       | AOC2-05      |           | AOC2-06      |       | AOC2-07      |       | AOC2-08      |           | AOC2-09      |       | AOC2-10      |       | AOC2-11      |           |    |    |           |   |           |        |   |  |       |   |  |
|---------------------------------|------------|----------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------|-------|--------------|-----------|--------------|-------|--------------|-------|--------------|-----------|--------------|-------|--------------|-------|--------------|-----------|--------------|-------|--------------|-------|--------------|-----------|----|----|-----------|---|-----------|--------|---|--|-------|---|--|
| Soil Sample ID:                 |            |                                                                |                                                                             |                                                                                                  | AOC2-01-7.0  |       | AOC2-02-7.0  |           | AOC2-03-8.0  |       | AOC2-04-7.5  |       | AOC2-05-9.5  |           | AOC2-06-9.5  |       | AOC2-07-9.0  |       | AOC2-08-8.0  |           | AOC2-09-9.5  |       | AOC2-10-10.0 |       | AOC2-11-6.5  |           |    |    |           |   |           |        |   |  |       |   |  |
| Laboratory Sample ID:           |            |                                                                |                                                                             |                                                                                                  | A9G150161008 |       | A9G150161007 |           | A9G150161005 |       | A9G150161009 |       | A9G150150004 |           | A9G150150003 |       | A9G150161003 |       | A9G150161004 |           | A9G150150005 |       | A9G110141009 |       | A9G110141008 |           |    |    |           |   |           |        |   |  |       |   |  |
| Sample Date:                    |            |                                                                |                                                                             |                                                                                                  | 07/13/2009   |       | 07/13/2009   |           | 07/13/2009   |       | 07/13/2009   |       | 07/14/2009   |           | 07/14/2009   |       | 07/13/2009   |       | 07/14/2009   |           | 07/14/2009   |       | 40004.625    |       | 07/10/2009   |           |    |    |           |   |           |        |   |  |       |   |  |
| Sample Depth:                   |            |                                                                |                                                                             |                                                                                                  | 7-7.5        |       | 7-7.5        |           | 8-8.5        |       | 7.5-10       |       | 8-8.5        |           | 9.5-10       |       | 9.5-10       |       | 9.5-10       |           | 10-10.5      |       | 10-10.5      |       | 6.5-7        |           |    |    |           |   |           |        |   |  |       |   |  |
| Concentration Unit:             |            | mg/Kg                                                          |                                                                             | mg/Kg                                                                                            |              | mg/Kg |              | mg/Kg     |              | mg/Kg |              | mg/Kg |              | mg/Kg     |              | mg/Kg |              | mg/Kg |              | mg/Kg     |              | mg/Kg |              | mg/Kg |              |           |    |    |           |   |           |        |   |  |       |   |  |
| Chemical Name                   | CAS RN     |                                                                |                                                                             |                                                                                                  | Result/RL    | LQ    | DV           | Result/RL | LQ           | DV    | Result/RL    | LQ    | DV           | Result/RL | LQ           | DV    | Result/RL    | LQ    | DV           | Result/RL | LQ           | DV    | Result/RL    | LQ    | DV           | Result/RL | LQ | DV | Result/RL | Q | Result/RL | Q      |   |  |       |   |  |
| Isosafrole                      | 120-58-1   | NS                                                             | NS                                                                          | NS                                                                                               | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| Methapyrilene                   | 91-80-5    | NS                                                             | NS                                                                          | NS                                                                                               | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| Methyl methanesulfonate         | 66-27-3    | 17                                                             | NS                                                                          | NS                                                                                               | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| Methyl parathion                | 298-00-0   | 150                                                            | 220                                                                         | 0.085                                                                                            | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| Naphthalene                     | 91-20-3    | 18                                                             | 190                                                                         | 0.32                                                                                             | 0.0089       | U     |              | 0.0094    | U            |       | 0.009        | U     |              | 0.014     | U            |       | 0.0082       | U     |              | 0.0082    | U            | J     | 0.0084       | U     |              | 0.0086    | U  |    | 0.0086    | U |           | 0.0083 | U |  | 0.056 |   |  |
| Nitrobenzene                    | 98-95-3    | 24                                                             | 110                                                                         | 0.022                                                                                            | 0.13         | U     |              | 0.14      | U            |       | 0.13         | U     |              | 0.21      | U            |       | 0.12         | U     |              | 0.12      | U            | J     | 0.13         | U     |              | 0.13      | U  |    | 0.13      | U |           | 0.12   | U |  | 0.44  | U |  |
| N-Nitrosodiethylamine           | 55-18-5    | 0.011                                                          | 0.16                                                                        | 0.0000023                                                                                        | 0.13         | U     |              | 0.14      | U            |       | 0.13         | U     |              | 0.21      | U            |       | 0.12         | U     |              | 0.12      | U            | J     | 0.13         | U     |              | 0.13      | U  |    | 0.13      | U |           | 0.12   | U |  | 0.44  | U |  |
| N-Nitrosodimethylamine          | 62-75-9    | 0.034                                                          | 0.48                                                                        | 0.0000057                                                                                        | 0.13         | U     |              | 0.14      | U            |       | 0.13         | U     |              | 0.21      | U            |       | 0.12         | U     |              | 0.12      | U            | J     | 0.13         | U     |              | 0.13      | U  |    | 0.13      | U |           | 0.12   | U |  | 0.44  | U |  |
| N-Nitrosodi-n-butylamine        | 924-16-3   | 0.40                                                           | 0.62                                                                        | 0.000029                                                                                         | 0.13         | U     |              | 0.14      | U            |       | 0.13         | U     |              | 0.21      | U            |       | 0.12         | U     |              | 0.12      | U            | J     | 0.13         | U     |              | 0.13      | U  |    | 0.13      | U |           | 0.12   | U |  | 0.44  | U |  |
| N-Nitrosodi-n-propylamine       | 621-64-7   | 0.25                                                           | 3.5                                                                         | 0.000048                                                                                         | 0.066        | U     |              | 0.07      | U            |       | 0.067        | U     |              | 0.11      | U            |       | 0.061        | U     |              | 0.061     | U            | J     | 0.063        | U     |              | 0.064     | U  |    | 0.064     | U |           | 0.062  | U |  | 0.22  | U |  |
| N-Nitrosodiphenylamine          | 86-30-6    | 350                                                            | 5,000                                                                       | 0.76                                                                                             | 0.39         |       |              | 0.14      |              |       | 0.067        | U     |              | 0.11      | U            |       | 0.061        | U     |              | 0.061     | U            | J     | 0.033        | J     |              | 0.064     | U  |    | 0.064     | U |           | 0.062  | U |  | 0.22  | U |  |
| N-Nitrosomethylethylamine       | 10595-95-6 | 0.078                                                          | 1.1                                                                         | 0.000021                                                                                         | 0.13         | U     |              | 0.14      | U            |       | 0.13         | U     |              | 0.21      | U            |       | 0.12         | U     |              | 0.12      | U            | J     | 0.13         | U     |              | 0.13      | U  |    | 0.13      | U |           | 0.12   | U |  | 0.44  | U |  |
| N-Nitrosomorpholine             | 59-89-2    | 0.26                                                           | NS                                                                          | NS                                                                                               | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| N-Nitrosopiperidine             | 100-75-4   | 0.18                                                           | NS                                                                          | NS                                                                                               | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| N-Nitrosopyrrolidine            | 930-55-2   | 0.82                                                           | 12                                                                          | 0.00033                                                                                          | 0.066        | U     |              | 0.07      | U            |       | 0.067        | U     |              | 0.11      | U            |       | 0.061        | U     |              | 0.061     | U            | J     | 0.063        | U     |              | 0.064     | U  |    | 0.064     | U |           | 0.062  | U |  | 0.22  | U |  |
| O,O,O-Triethyl phosphorothioate | 126-68-1   | NS                                                             | NS                                                                          | NS                                                                                               | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| o-Toluidine                     | 95-53-4    | 9.6                                                            | 100                                                                         | 0.0057                                                                                           | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| Parathion                       | 56-38-2    | 3,700                                                          | 5,300                                                                       | 10                                                                                               | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| p-Dimethylaminoazobenzene       | 60-11-7    | 0.37                                                           | NS                                                                          | NS                                                                                               | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| Pentachlorobenzene              | 608-93-5   | 490                                                            | 700                                                                         | 20                                                                                               | 0.13         | U     |              | 0.14      | U            |       | 0.13         | U     |              | 0.21      | U            |       | 0.12         | U     |              | 0.12      | U            | J     | 0.13         | U     |              | 0.13      | U  |    | 0.13      | U |           | 0.12   | U |  | 0.44  | U |  |
| Pentachloroethane               | 76-01-7    | 19                                                             | NS                                                                          | NS                                                                                               | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| Pentachloronitrobenzene         | 82-68-8    | 6.6                                                            | 95                                                                          | 0.083                                                                                            | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| Pentachlorophenol               | 87-86-5    | 9                                                              | 110                                                                         | 0.028                                                                                            | 0.2          | U     |              | 0.21      | U            |       | 0.2          | U     |              | 0.32      | U            |       | 0.18         | U     |              | 0.18      | U            | J     | 0.19         | U     |              | 0.19      | U  |    | 0.19      | U |           | 0.19   | U |  | 0.65  | U |  |
| Phenacetin                      | 62-44-2    | 780                                                            | NS                                                                          | NS                                                                                               | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| Phenanthrene                    | 85-01-8    | NS                                                             | 410,000                                                                     | 1,500                                                                                            | 0.0089       | U     |              | 0.0094    | U            |       | 0.009        | U     |              | 0.014     | U            |       | 0.0082       | U     |              | 0.0082    | U            | J     | 0.0084       | U     |              | 0.0086    | U  |    | 0.0086    | U |           | 0.0083 | U |  | 2.2   |   |  |
| Phenol                          | 108-95-2   | 180,000                                                        | 260,000                                                                     | 56                                                                                               | 0.066        | U     |              | 0.07      | U            |       | 0.067        | U     |              | 0.11      | U            |       | 0.061        | U     |              | 0.061     | U            | J     | 0.063        | U     |              | 0.064     | U  |    | 0.064     | U |           | 0.062  | U |  | 0.22  | U |  |
| Phorate                         | 298-02-2   | 120                                                            | NS                                                                          | NS                                                                                               | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| p-Phenylene diamine             | 106-50-3   | 120,000                                                        | 170,000                                                                     | 48                                                                                               | 0.88         | U     |              | 0.93      | U            |       | 0.89         | U     |              | 1.4       | U            |       | 0.81         | U     |              | 0.81      | U            | J     | 0.83         | U     |              | 0.85      | U  |    | 0.85      | U |           | 0.82   | U |  | 2.9   | U |  |
| Pronamide                       | 23950-58-5 | 46,000                                                         | NS                                                                          | NS                                                                                               | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| Pyrene                          | 129-00-0   | 17,000                                                         | 54,000                                                                      | 500                                                                                              | 0.0089       | U     |              | 0.0094    | U            |       | 0.009        | U     |              | 0.014     | U            |       | 0.0082       | U     |              | 0.0082    | U            | J     | 0.0084       | U     |              | 0.011     |    |    | 0.0086    | U |           | 0.0083 | U |  | 3.6   |   |  |
| Pyridine                        | 110-86-1   | 1,000                                                          | 880                                                                         | 0.19                                                                                             | 0.13         | U     |              | 0.14      | U            |       | 0.13         | U     |              | 0.21      | U            |       | 0.12         | U     |              | 0.12      | U            | J     | 0.13         | U     |              | 0.13      | U  |    | 0.13      | U |           | 0.12   | U |  | 0.44  | U |  |
| Safrole                         | 94-59-7    | 7.8                                                            | NS                                                                          | NS                                                                                               | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| Tetraethyldithiopyrophosphate   | 3689-24-5  | 310                                                            | NS                                                                          | NS                                                                                               | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |
| Thionazin                       | 297-97-2   | NS                                                             | NS                                                                          | NS                                                                                               | 0.44         | U     |              | 0.46      | U            |       | 0.44         | U     |              | 0.71      | U            |       | 0.4          | U     |              | 0.41      | U            | J     | 0.42         | U     |              | 0.42      | U  |    | 0.42      | U |           | 0.41   | U |  | 1.4   | U |  |

- Notes:
1. NS denotes No Standard for the Chemical
  2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
  3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
  4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
  5. U Qualifier denotes chemical was not detected above the listed Reporting Limit
  6. J Qualifier denotes result was detected below the Reporting Limit
  7. B Qualifier denotes chemical was also detected in the Method Blank

- Laboratory Data Qualifiers (LQ)
- U - Target analyte not detected above listed Reporting Limit
- J - Estimated result. Result is less than Reporting Limit
- B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

- Data Validation Qualifiers (DV)
- B - Not detected substantially above the level reported in the laboratory or field blanks
- J - Analyte is present. Reported value may not be accurate or precise.
- K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.
- L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.
- R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample.
- Supporting data is necessary to confirm.

TABLE 18  
AOC 2 Soil Sample Results for Semi-Volatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit: |           | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil De<br>Minimis Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC2-12<br>AOC2-12-9.0<br>A9G110141007<br>07/10/2009<br>9-9.5<br>mg/Kg<br>Result/RL Q |   | AOC2-13<br>AOC2-13-7.0<br>A9G110141006<br>07/10/2009<br>7-8<br>mg/Kg<br>Result/RL Q |   | AOC2-14<br>AOC2-14-9.0<br>A9G110141005<br>07/10/2009<br>9-9.5<br>mg/Kg<br>Result/RL Q |   | AOC2-15<br>AOC2-15-11.0<br>A9G110141004<br>07/10/2009<br>11-11.5<br>mg/Kg<br>Result/RL Q |   | AOC2-16<br>AOC2-16-10.0<br>A9G110141003<br>07/10/2009<br>10-10.5<br>mg/Kg<br>Result/RL Q |   | AOC2-17<br>AOC2-17-11.0<br>A9G100171013<br>07/09/2009<br>11-11.5<br>mg/Kg<br>Result/RL Q |   | AOC2-18<br>AOC2-18-11.0<br>A9G100171012<br>07/09/2009<br>11-11.5<br>mg/Kg<br>Result/RL Q |   | AOC2-19<br>AOC2-19-10.0<br>A9G100171011<br>07/09/2009<br>10-10.5<br>mg/Kg<br>Result/RL Q |   | AOC2-20<br>AOC2-20-9.5<br>A9G100171010<br>07/09/2009<br>9.5-10<br>mg/Kg<br>Result/RL Q |   | AOC2-03<br>AOC2-21-8.0<br>A9G150161006<br>07/13/2009<br>8-8.5<br>mg/Kg<br>Result/RL Q |   |
|----------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---|-------------------------------------------------------------------------------------|---|---------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------|---|----------------------------------------------------------------------------------------|---|---------------------------------------------------------------------------------------|---|
| Chemical Name                                                                                                        | CAS RN    |                                                                |                                                                             |                                                                                                  |                                                                                       |   |                                                                                     |   |                                                                                       |   |                                                                                          |   |                                                                                          |   |                                                                                          |   |                                                                                          |   |                                                                                          |   |                                                                                        |   |                                                                                       |   |
| 1,2,4,5-Tetrachlorobenzene                                                                                           | 95-94-3   | 180                                                            | 260                                                                         | 0.66                                                                                             | 0.12                                                                                  | U | 0.12                                                                                | U | 0.13                                                                                  | U | 0.12                                                                                     | U | 6.4                                                                                      | U | 0.13                                                                                     | U | 16,000                                                                                   | U | 0.13                                                                                     | U | 0.13                                                                                   | U | 0.025                                                                                 | J |
| 1,2,4-Trichlorobenzene                                                                                               | 120-82-1  | 99                                                             | 20,000                                                                      | 4.9                                                                                              | 0.06                                                                                  | J | 0.061                                                                               | U | 0.064                                                                                 | U | 0.78                                                                                     |   | 3.2                                                                                      | U | 0.61                                                                                     |   | 170,000                                                                                  |   | 0.042                                                                                    | J | 1.7                                                                                    |   | 15                                                                                    | J |
| 1,2-Dichlorobenzene                                                                                                  | 95-50-1   | 9,800                                                          | 150                                                                         | 12                                                                                               | 0.062                                                                                 | U | 0.061                                                                               | U | 0.064                                                                                 | U | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U | 0.065                                                                                  | U | 0.099                                                                                 | J |
| 1,2-Diphenylhydrazine                                                                                                | 122-66-7  | 2.2                                                            | 31                                                                          | 0.0026                                                                                           | 0.062                                                                                 | U | 0.061                                                                               | U | 0.064                                                                                 | U | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U | 0.065                                                                                  | U | 0.067                                                                                 | U |
| 1,3,5-Trinitrobenzene                                                                                                | 99-35-4   | 27,000                                                         | 26,000                                                                      | 52                                                                                               | 2                                                                                     | U | 2                                                                                   | U | 2.1                                                                                   | U | 2                                                                                        | U | 100                                                                                      | U | 2.1                                                                                      | U | 250,000                                                                                  | U | 2.1                                                                                      | U | 2.1                                                                                    | U | 2.2                                                                                   | U |
| 1,3-Dichlorobenzene                                                                                                  | 541-73-1  | NS                                                             | 130                                                                         | 12                                                                                               | 0.062                                                                                 | U | 0.061                                                                               | U | 0.064                                                                                 | U | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U | 0.4                                                                                    |   | 0.23                                                                                  | J |
| 1,3-Dinitrobenzene                                                                                                   | 99-65-0   | 62                                                             | 88                                                                          | 0.037                                                                                            | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| 1,4-Dichlorobenzene                                                                                                  | 106-46-7  | 12                                                             | 45                                                                          | 2.2                                                                                              | 0.062                                                                                 | U | 0.061                                                                               | U | 0.064                                                                                 | U | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.1                                                                                      |   | 7,900                                                                                    | U | 0.064                                                                                    | U | 0.18                                                                                   |   | 6.9                                                                                   |   |
| 1,4-Naphthoquinone                                                                                                   | 130-15-4  | NS                                                             | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| 1-Naphthylamine                                                                                                      | 134-32-7  | NS                                                             | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| 2,3,4,6-Tetrachlorophenol                                                                                            | 58-90-2   | 18,000                                                         | 26,000                                                                      | 92                                                                                               | 0.12                                                                                  | U | 0.12                                                                                | U | 0.13                                                                                  | U | 0.12                                                                                     | U | 6.4                                                                                      | U | 0.13                                                                                     | U | 16,000                                                                                   | U | 0.13                                                                                     | U | 0.13                                                                                   | U | 0.13                                                                                  | U |
| 2,4,5-Trichlorophenol                                                                                                | 95-95-4   | 62,000                                                         | 88,000                                                                      | 250                                                                                              | 0.19                                                                                  | U | 0.18                                                                                | U | 0.19                                                                                  | U | 0.19                                                                                     | U | 9.5                                                                                      | U | 0.2                                                                                      | U | 24,000                                                                                   | U | 0.19                                                                                     | U | 0.19                                                                                   | U | 0.2                                                                                   | U |
| 2,4,6-Trichlorophenol                                                                                                | 88-06-2   | 160                                                            | 2,200                                                                       | 0.12                                                                                             | 0.19                                                                                  | U | 0.18                                                                                | U | 0.19                                                                                  | U | 0.19                                                                                     | U | 9.5                                                                                      | U | 0.2                                                                                      | U | 24,000                                                                                   | U | 0.19                                                                                     | U | 0.19                                                                                   | U | 0.2                                                                                   | U |
| 2,4-Dichlorophenol                                                                                                   | 120-83-2  | 1,800                                                          | 2,600                                                                       | 1.1                                                                                              | 0.19                                                                                  | U | 0.18                                                                                | U | 0.19                                                                                  | U | 0.19                                                                                     | U | 9.5                                                                                      | U | 0.2                                                                                      | U | 24,000                                                                                   | U | 0.19                                                                                     | U | 0.19                                                                                   | U | 0.074                                                                                 | J |
| 2,4-Dimethylphenol                                                                                                   | 105-67-9  | 12,000                                                         | 18,000                                                                      | 9                                                                                                | 0.19                                                                                  | U | 0.18                                                                                | U | 0.19                                                                                  | U | 0.19                                                                                     | U | 9.5                                                                                      | U | 0.2                                                                                      | U | 24,000                                                                                   | U | 0.19                                                                                     | U | 0.19                                                                                   | U | 0.2                                                                                   | U |
| 2,4-Dinitrophenol                                                                                                    | 51-28-5   | 1,200                                                          | 1,800                                                                       | 0.29                                                                                             | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| 2,4-Dinitrotoluene                                                                                                   | 121-14-2  | 5.5                                                            | 1,800                                                                       | 0.57                                                                                             | 0.25                                                                                  | U | 0.25                                                                                | U | 0.26                                                                                  | U | 0.25                                                                                     | U | 13                                                                                       | U | 0.27                                                                                     | U | 32,000                                                                                   | U | 0.26                                                                                     | U | 0.26                                                                                   | U | 0.27                                                                                  | U |
| 2,6-Dichlorophenol                                                                                                   | 87-65-0   | NS                                                             | NS                                                                          | NS                                                                                               | 0.25                                                                                  | U | 0.25                                                                                | U | 0.26                                                                                  | U | 0.25                                                                                     | U | 13                                                                                       | U | 0.27                                                                                     | U | 32,000                                                                                   | U | 0.26                                                                                     | U | 0.26                                                                                   | U | 0.27                                                                                  | U |
| 2,6-Dinitrotoluene                                                                                                   | 606-20-2  | 620                                                            | 890                                                                         | 0.25                                                                                             | 0.25                                                                                  | U | 0.25                                                                                | U | 0.26                                                                                  | U | 0.25                                                                                     | U | 13                                                                                       | U | 0.27                                                                                     | U | 32,000                                                                                   | U | 0.26                                                                                     | U | 0.26                                                                                   | U | 0.27                                                                                  | U |
| 2-Acetylaminofluorene                                                                                                | 53-96-3   | 0.45                                                           | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| 2-Chloronaphthalene                                                                                                  | 91-58-7   | 82,000                                                         | 27,000                                                                      | 32                                                                                               | 0.062                                                                                 | U | 0.061                                                                               | U | 0.064                                                                                 | U | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U | 0.065                                                                                  | U | 0.067                                                                                 | U |
| 2-Chlorophenol                                                                                                       | 95-57-8   | 5,100                                                          | 240                                                                         | 0.61                                                                                             | 0.062                                                                                 | U | 0.061                                                                               | U | 0.064                                                                                 | U | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U | 0.065                                                                                  | U | 0.067                                                                                 | U |
| 2-Methylnaphthalene                                                                                                  | 91-57-6   | 4,100                                                          | NS                                                                          | NS                                                                                               | 0.0083                                                                                | U | 0.0082                                                                              | U | 0.0086                                                                                | U | 0.0083                                                                                   | U | 0.42                                                                                     | U | 0.0089                                                                                   | U | 1,100                                                                                    | U | 0.0086                                                                                   | U | 0.066                                                                                  |   | 0.009                                                                                 | U |
| 2-Methylphenol                                                                                                       | 95-48-7   | 31,000                                                         | 44,000                                                                      | 14                                                                                               | 0.25                                                                                  | U | 0.25                                                                                | U | 0.26                                                                                  | U | 0.25                                                                                     | U | 13                                                                                       | U | 0.27                                                                                     | U | 32,000                                                                                   | U | 0.26                                                                                     | U | 0.26                                                                                   | U | 0.27                                                                                  | U |
| 2-Naphthylamine                                                                                                      | 91-59-8   | 0.96                                                           | NS                                                                          | NS                                                                                               | 0.25                                                                                  | U | 0.25                                                                                | U | 0.26                                                                                  | U | 0.25                                                                                     | U | 13                                                                                       | U | 0.27                                                                                     | U | 32,000                                                                                   | U | 0.26                                                                                     | U | 0.26                                                                                   | U | 0.27                                                                                  | U |
| 2-Nitroaniline                                                                                                       | 88-74-4   | 6,000                                                          | 2,600                                                                       | 0.56                                                                                             | 0.25                                                                                  | U | 0.25                                                                                | U | 0.26                                                                                  | U | 0.25                                                                                     | U | 13                                                                                       | U | 0.27                                                                                     | U | 32,000                                                                                   | U | 0.26                                                                                     | U | 0.26                                                                                   | U | 0.27                                                                                  | U |
| 2-Nitrophenol                                                                                                        | 88-75-5   | NS                                                             | NS                                                                          | NS                                                                                               | 0.062                                                                                 | U | 0.061                                                                               | U | 0.064                                                                                 | U | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U | 0.065                                                                                  | U | 0.067                                                                                 | U |
| 2-Picoline                                                                                                           | 109-06-8  | NS                                                             | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| 2-sec-Butyl-4,6-dinitrophenol                                                                                        | 88-85-7   | 620                                                            | 880                                                                         | 0.033                                                                                            | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| 3,3'-Dichlorobenzidine                                                                                               | 91-94-1   | 3.8                                                            | 55                                                                          | 0.0049                                                                                           | 0.12                                                                                  | U | 0.12                                                                                | U | 0.13                                                                                  | U | 0.12                                                                                     | U | 6.4                                                                                      | U | 0.13                                                                                     | U | 16,000                                                                                   | U | 0.13                                                                                     | U | 0.13                                                                                   | U | 0.13                                                                                  | U |
| 3,3'-Dimethoxybenzidine                                                                                              | 119-90-4  | 120                                                            | 1,800                                                                       | 0.3                                                                                              | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| 3,3'-Dimethylbenzidine                                                                                               | 119-93-7  | 0.16                                                           | 11                                                                          | 0.0089                                                                                           | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| 3-Methylcholanthrene                                                                                                 | 56-49-5   | 0.078                                                          | NS                                                                          | NS                                                                                               | 0.25                                                                                  | U | 0.25                                                                                | U | 0.26                                                                                  | U | 0.25                                                                                     | U | 13                                                                                       | U | 0.27                                                                                     | U | 32,000                                                                                   | U | 0.26                                                                                     | U | 0.26                                                                                   | U | 0.27                                                                                  | U |
| 3-Methylphenol                                                                                                       | 108-39-4  | 31,000                                                         | 44,000                                                                      | 39                                                                                               | 0.25                                                                                  | U | 0.25                                                                                | U | 0.26                                                                                  | U | 0.25                                                                                     | U | 13                                                                                       | U | 0.27                                                                                     | U | 32,000                                                                                   | U | 0.26                                                                                     | U | 0.26                                                                                   | U | 0.27                                                                                  | U |
| 3-Nitroaniline                                                                                                       | 99-09-2   | NS                                                             | NS                                                                          | NS                                                                                               | 0.25                                                                                  | U | 0.25                                                                                | U | 0.26                                                                                  | U | 0.25                                                                                     | U | 13                                                                                       | U | 0.27                                                                                     | U | 32,000                                                                                   | U | 0.26                                                                                     | U | 0.26                                                                                   | U | 0.27                                                                                  | U |
| 4,6-Dinitro-2-methylphenol                                                                                           | 534-52-1  | 62                                                             | NS                                                                          | NS                                                                                               | 0.19                                                                                  | U | 0.18                                                                                | U | 0.19                                                                                  | U | 0.19                                                                                     | U | 9.5                                                                                      | U | 0.2                                                                                      | U | 24,000                                                                                   | U | 0.19                                                                                     | U | 0.19                                                                                   | U | 0.2                                                                                   | U |
| 4-Aminobiphenyl                                                                                                      | 92-67-1   | 0.082                                                          | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| 4-Bromophenyl phenyl ether                                                                                           | 101-55-3  | NS                                                             | NS                                                                          | NS                                                                                               | 0.062                                                                                 | U | 0.061                                                                               | U | 0.064                                                                                 | U | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U | 0.065                                                                                  | U | 0.067                                                                                 | U |
| 4-Chloro-3-methylphenol                                                                                              | 59-50-7   | 62,000                                                         | NS                                                                          | NS                                                                                               | 0.19                                                                                  | U | 0.18                                                                                | U | 0.19                                                                                  | U | 0.19                                                                                     | U | 9.5                                                                                      | U | 0.2                                                                                      | U | 24,000                                                                                   | U | 0.19                                                                                     | U | 0.19                                                                                   | U | 0.2                                                                                   | U |
| 4-Chloroaniline                                                                                                      | 106-47-8  | 8.6                                                            | 3500                                                                        | 0.97                                                                                             | 0.19                                                                                  | U | 0.18                                                                                | U | 0.19                                                                                  | U | 0.19                                                                                     | U | 9.5                                                                                      | U | 0.2                                                                                      | U | 24,000                                                                                   | U | 0.19                                                                                     | U | 0.19                                                                                   | U | 0.2                                                                                   | U |
| 4-Chlorophenyl phenyl ether                                                                                          | 7005-72-3 | NS                                                             | NS                                                                          | NS                                                                                               | 0.062                                                                                 | U | 0.061                                                                               | U | 0.064                                                                                 | U | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U | 0.065                                                                                  | U | 0.067                                                                                 | U |
| 4-Methylphenol                                                                                                       | 106-44-5  | 3100                                                           | 4400                                                                        | 3.9                                                                                              | 0.25                                                                                  | U | 0.25                                                                                | U | 0.26                                                                                  | U | 0.25                                                                                     | U | 13                                                                                       | U | 0.27                                                                                     | U | 32,000                                                                                   | U | 0.26                                                                                     | U | 0.26                                                                                   | U | 0.27                                                                                  | U |
| 4-Nitroaniline                                                                                                       | 100-01-6  | 86                                                             | NS                                                                          | NS                                                                                               | 0.25                                                                                  | U | 0.25                                                                                | U | 0.26                                                                                  | U | 0.25                                                                                     | U | 13                                                                                       | U | 0.27                                                                                     | U | 32,000                                                                                   | U | 0.26                                                                                     | U | 0.26                                                                                   | U | 0.27                                                                                  | U |
| 4-Nitrophenol                                                                                                        | 100-02-7  | NS                                                             | 7000                                                                        | 1.7                                                                                              | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| 4-Nitroquinoline-1-oxide                                                                                             | 56-57-5   | NS                                                             | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |

- Notes:
1. NS denotes No Standard for the Chemical
  2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
  3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
  4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
  5. U Qualifier denotes chemical was not detected above the listed Reporting Limit
  6. J Qualifier denotes result was detected below the Reporting Limit
  7. B Qualifier denotes chemical was also detected in the Method Blank

Laboratory Data Qualifiers (LQ)  
U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers (DV)  
B - Not detected substantially above the level reported in the laboratory or field blanks  
J - Analyte is present. Reported value may not be accurate or precise.  
K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.  
L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.  
R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample.  
Supporting data is necessary to confirm.

TABLE 18  
AOC 2 Soil Sample Results for Semi-Volatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit: |           | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil De<br>Minimis Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC2-12<br>AOC2-12-9.0<br>A9G110141007<br>07/10/2009<br>9-9.5<br>mg/Kg<br>Result/RL Q |     | AOC2-13<br>AOC2-13-7.0<br>A9G110141006<br>07/10/2009<br>7-8<br>mg/Kg<br>Result/RL Q |     | AOC2-14<br>AOC2-14-9.0<br>A9G110141005<br>07/10/2009<br>9-9.5<br>mg/Kg<br>Result/RL Q |     | AOC2-15<br>AOC2-15-11.0<br>A9G110141004<br>07/10/2009<br>11-11.5<br>mg/Kg<br>Result/RL Q |   | AOC2-16<br>AOC2-16-10.0<br>A9G110141003<br>07/10/2009<br>10-10.5<br>mg/Kg<br>Result/RL Q |   | AOC2-17<br>AOC2-17-11.0<br>A9G100171013<br>07/09/2009<br>11-11.5<br>mg/Kg<br>Result/RL Q |   | AOC2-18<br>AOC2-18-11.0<br>A9G100171012<br>07/09/2009<br>11-11.5<br>mg/Kg<br>Result/RL Q |   | AOC2-19<br>AOC2-19-10.0<br>A9G100171011<br>07/09/2009<br>10-10.5<br>mg/Kg<br>Result/RL Q |     | AOC2-20<br>AOC2-20-9.5<br>A9G100171010<br>07/09/2009<br>9.5-10<br>mg/Kg<br>Result/RL Q |   | AOC2-03<br>AOC2-21-8.0<br>A9G150161006<br>07/13/2009<br>8-8.5<br>mg/Kg<br>Result/RL Q |   |
|----------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------|---|---------------------------------------------------------------------------------------|---|
| Chemical Name                                                                                                        | CAS RN    |                                                                |                                                                             |                                                                                                  |                                                                                       |     |                                                                                     |     |                                                                                       |     |                                                                                          |   |                                                                                          |   |                                                                                          |   |                                                                                          |   |                                                                                          |     |                                                                                        |   |                                                                                       |   |
| 5-Nitro-o-toluidine                                                                                                  | 99-55-8   | 52                                                             | 750                                                                         | 0.015                                                                                            | 0.41                                                                                  | U   | 0.4                                                                                 | U   | 0.42                                                                                  | U   | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U   | 0.43                                                                                   | U | 0.45                                                                                  | U |
| 7,12-Dimethylbenz(a)anthracene                                                                                       | 57-97-6   | 0.0062                                                         | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U   | 0.4                                                                                 | U   | 0.42                                                                                  | U   | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U   | 0.43                                                                                   | U | 0.45                                                                                  | U |
| a,a-Dimethylphenethylamine                                                                                           | 122-09-8  | NS                                                             | NS                                                                          | NS                                                                                               | 0.82                                                                                  | U   | 0.81                                                                                | U   | 0.85                                                                                  | U   | 0.82                                                                                     | U | 42                                                                                       | U | 0.89                                                                                     | U | 100,000                                                                                  | U | 0.85                                                                                     | U   | 0.85                                                                                   | U | 0.89                                                                                  | U |
| Acenaphthene                                                                                                         | 83-32-9   | 33,000                                                         | 38,000                                                                      | 73                                                                                               | 0.0083                                                                                | U   | 0.0082                                                                              | U   | 0.0086                                                                                | U   | 0.0083                                                                                   | U | 0.42                                                                                     | U | 0.0089                                                                                   | U | 1,100                                                                                    | U | 0.0086                                                                                   | U   | 0.0086                                                                                 | U | 0.009                                                                                 | U |
| Acenaphthylene                                                                                                       | 208-96-8  | NS                                                             | 44,000                                                                      | 91                                                                                               | 0.0083                                                                                | U   | 0.0082                                                                              | U   | 0.0086                                                                                | U   | 0.0083                                                                                   | U | 0.42                                                                                     | U | 0.0089                                                                                   | U | 1,100                                                                                    | U | 0.0086                                                                                   | U   | 0.0086                                                                                 | U | 0.009                                                                                 | U |
| Acetophenone                                                                                                         | 98-86-2   | 100,000                                                        | 25,000                                                                      | 3.2                                                                                              | 0.12                                                                                  | U   | 0.12                                                                                | U   | 0.13                                                                                  | U   | 0.12                                                                                     | U | 6.4                                                                                      | U | 0.13                                                                                     | U | 16,000                                                                                   | U | 0.13                                                                                     | U   | 0.13                                                                                   | U | 0.13                                                                                  | U |
| Aniline                                                                                                              | 62-53-3   | 300                                                            | 4,300                                                                       | 0.14                                                                                             | 0.41                                                                                  | U   | 0.4                                                                                 | U   | 0.42                                                                                  | U   | 0.026                                                                                    | J | 61                                                                                       |   | 0.8                                                                                      |   | 52,000                                                                                   | U | 0.43                                                                                     | U   | 0.84                                                                                   |   | 0.025                                                                                 | J |
| Anthracene                                                                                                           | 120-12-7  | 170,000                                                        | 390,000                                                                     | 1,700                                                                                            | 0.0083                                                                                | U   | 0.0082                                                                              | U   | 0.0086                                                                                | U   | 0.0083                                                                                   | U | 0.42                                                                                     | U | 0.0089                                                                                   | U | 1,100                                                                                    | U | 0.0086                                                                                   | U   | 0.0086                                                                                 | U | 0.009                                                                                 | U |
| Aramite                                                                                                              | 140-57-8  | 69                                                             | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U   | 0.4                                                                                 | U   | 0.42                                                                                  | U   | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U   | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Benzidine                                                                                                            | 92-87-5   | 0.0075                                                         | 0.11                                                                        | 0.000033                                                                                         | 0.41                                                                                  | U   | 0.4                                                                                 | U   | 0.42                                                                                  | U   | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U   | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Benzo(a)anthracene                                                                                                   | 56-55-3   | 2.1                                                            | 29                                                                          | 1.5                                                                                              | 0.0083                                                                                | U   | 0.0082                                                                              | U   | 0.0086                                                                                | U   | 0.041                                                                                    |   | 0.42                                                                                     | U | 0.0089                                                                                   | U | 1,100                                                                                    | U | 0.0086                                                                                   | U   | 0.015                                                                                  |   | 0.009                                                                                 | U |
| Benzo(a)pyrene                                                                                                       | 50-32-8   | 0.21                                                           | 2.9                                                                         | 8.2                                                                                              | 0.0083                                                                                | U   | 0.0082                                                                              | U   | 0.0086                                                                                | U   | 0.056                                                                                    |   | 0.42                                                                                     | U | 0.0089                                                                                   | U | 1,100                                                                                    | U | 0.0086                                                                                   | U   | 0.018                                                                                  |   | 0.009                                                                                 | U |
| Benzo(b)fluoranthene                                                                                                 | 205-99-2  | 2.1                                                            | 29                                                                          | 4.5                                                                                              | 0.0083                                                                                | U   | 0.0082                                                                              | U   | 0.0086                                                                                | U   | 0.079                                                                                    |   | 0.42                                                                                     | U | 0.014                                                                                    |   | 1,100                                                                                    | U | 0.0086                                                                                   | U   | 0.028                                                                                  |   | 0.009                                                                                 | U |
| Benzo(ghi)perylene                                                                                                   | 191-24-2  | NS                                                             | 23,000                                                                      | 120,000                                                                                          | 0.0083                                                                                | U   | 0.0082                                                                              | U   | 0.0086                                                                                | U   | 0.053                                                                                    |   | 0.42                                                                                     | U | 0.0089                                                                                   | U | 1,100                                                                                    | U | 0.0086                                                                                   | U   | 0.02                                                                                   |   | 0.009                                                                                 | U |
| Benzo(k)fluoranthene                                                                                                 | 207-08-9  | 21                                                             | 290                                                                         | 45                                                                                               | 0.0083                                                                                | U   | 0.0082                                                                              | U   | 0.0086                                                                                | U   | 0.033                                                                                    |   | 0.42                                                                                     | U | 0.0089                                                                                   | U | 1,100                                                                                    | U | 0.0086                                                                                   | U   | 0.0086                                                                                 | U | 0.009                                                                                 | U |
| Benzyl alcohol                                                                                                       | 100-51-6  | 62,000                                                         | 440,000                                                                     | 150                                                                                              | 0.41                                                                                  | U   | 0.4                                                                                 | U   | 0.42                                                                                  | U   | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U   | 0.43                                                                                   | U | 0.45                                                                                  | U |
| bis(2-Chloro-1-methylethyl) ether                                                                                    | 108-60-1  | 22                                                             | 81                                                                          | 0.0018                                                                                           | 0.12                                                                                  | U   | 0.12                                                                                | U   | 0.13                                                                                  | U   | 0.12                                                                                     | U | 6.4                                                                                      | U | 0.13                                                                                     | U | 16,000                                                                                   | U | 0.13                                                                                     | U   | 0.13                                                                                   | U | 0.13                                                                                  | U |
| bis(2-Chloroethoxy)methane                                                                                           | 111-91-1  | 1,800                                                          | NS                                                                          | NS                                                                                               | 0.12                                                                                  | U   | 0.12                                                                                | U   | 0.13                                                                                  | U   | 0.12                                                                                     | U | 6.4                                                                                      | U | 0.13                                                                                     | U | 16,000                                                                                   | U | 0.13                                                                                     | U   | 0.13                                                                                   | U | 0.13                                                                                  | U |
| bis(2-Chloroethyl) ether                                                                                             | 111-44-4  | 1.0                                                            | 6                                                                           | 0.56                                                                                             | 0.12                                                                                  | U   | 0.12                                                                                | U   | 0.13                                                                                  | U   | 0.12                                                                                     | U | 6.4                                                                                      | U | 0.13                                                                                     | U | 16,000                                                                                   | U | 0.13                                                                                     | U   | 0.13                                                                                   | U | 0.13                                                                                  | U |
| bis(2-Ethylhexyl) phthalate                                                                                          | 117-81-7  | 120                                                            | 1,800                                                                       | 3,600                                                                                            | 0.029                                                                                 | J B | 0.029                                                                               | J B | 0.025                                                                                 | J B | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.024                                                                                    | J | 7,900                                                                                    | U | 0.031                                                                                    | J B | 5.8                                                                                    |   | 0.067                                                                                 | U |
| Butyl benzyl phthalate                                                                                               | 85-68-7   | 910                                                            | 180,000                                                                     | 17,000                                                                                           | 0.062                                                                                 | U   | 0.061                                                                               | U   | 0.064                                                                                 | U   | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U   | 0.065                                                                                  | U | 0.067                                                                                 | U |
| Chlorobenzilate                                                                                                      | 510-15-6  | 16                                                             | 91                                                                          | 0.027                                                                                            | 0.41                                                                                  | U   | 0.4                                                                                 | U   | 0.42                                                                                  | U   | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U   | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Chrysene                                                                                                             | 218-01-9  | 210                                                            | 2900                                                                        | 150                                                                                              | 0.0083                                                                                | U   | 0.0082                                                                              | U   | 0.0086                                                                                | U   | 0.048                                                                                    |   | 0.42                                                                                     | U | 0.0089                                                                                   | U | 1,100                                                                                    | U | 0.0086                                                                                   | U   | 0.033                                                                                  |   | 0.009                                                                                 | U |
| Diallate                                                                                                             | 2303-16-4 | 28                                                             | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U   | 0.4                                                                                 | U   | 0.42                                                                                  | U   | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U   | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Dibenz(a,h)anthracene                                                                                                | 53-70-3   | 0.21                                                           | 2.9                                                                         | 1.4                                                                                              | 0.0083                                                                                | U   | 0.0082                                                                              | U   | 0.0086                                                                                | U   | 0.0083                                                                                   | U | 0.42                                                                                     | U | 0.0089                                                                                   | U | 1,100                                                                                    | U | 0.0086                                                                                   | U   | 0.0086                                                                                 | U | 0.009                                                                                 | U |
| Dibenzofuran                                                                                                         | 132-64-9  | 1,000                                                          | 2,000                                                                       | 11                                                                                               | 0.062                                                                                 | U   | 0.061                                                                               | U   | 0.064                                                                                 | U   | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U   | 0.065                                                                                  | U | 0.067                                                                                 | U |
| Diethyl phthalate                                                                                                    | 84-66-2   | 490,000                                                        | 700,000                                                                     | 450                                                                                              | 0.062                                                                                 | U   | 0.061                                                                               | U   | 0.064                                                                                 | U   | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U   | 0.065                                                                                  | U | 0.067                                                                                 | U |
| Dimethoate                                                                                                           | 60-51-5   | 120                                                            | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U   | 0.4                                                                                 | U   | 0.42                                                                                  | U   | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U   | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Dimethyl phthalate                                                                                                   | 131-11-3  | NS                                                             | 1,000,000                                                                   | 2,000                                                                                            | 0.062                                                                                 | U   | 0.061                                                                               | U   | 0.064                                                                                 | U   | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U   | 0.065                                                                                  | U | 0.067                                                                                 | U |
| Di-n-butyl phthalate                                                                                                 | 84-74-2   | 62,000                                                         | 88,000                                                                      | 5,000                                                                                            | 0.062                                                                                 | U   | 0.061                                                                               | U   | 0.064                                                                                 | U   | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U   | 0.065                                                                                  | U | 0.067                                                                                 | U |
| Di-n-octyl phthalate                                                                                                 | 117-84-0  | NS                                                             | NS                                                                          | NS                                                                                               | 0.062                                                                                 | U   | 0.061                                                                               | U   | 0.064                                                                                 | U   | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U   | 0.065                                                                                  | U | 0.067                                                                                 | U |
| Diphenylamine                                                                                                        | 122-39-4  | 15,000                                                         | 22,000                                                                      | 25                                                                                               | 0.12                                                                                  | U   | 0.12                                                                                | U   | 0.13                                                                                  | U   | 0.12                                                                                     | U | 6.4                                                                                      | U | 0.13                                                                                     | U | 16,000                                                                                   | U | 0.13                                                                                     | U   | 0.053                                                                                  | J | 0.13                                                                                  | U |
| Disulfoton                                                                                                           | 298-04-4  | 25                                                             | 35                                                                          | 0.064                                                                                            | 0.41                                                                                  | U   | 0.4                                                                                 | U   | 0.42                                                                                  | U   | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U   | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Ethyl methanesulfonate                                                                                               | 62-50-0   | NS                                                             | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U   | 0.4                                                                                 | U   | 0.42                                                                                  | U   | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U   | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Famphur                                                                                                              | 52-85-7   | NS                                                             | NS                                                                          | NS                                                                                               | 4.1                                                                                   | U   | 4                                                                                   | U   | 4.2                                                                                   | U   | 4.1                                                                                      | U | 210                                                                                      | U | 4.4                                                                                      | U | 520,000                                                                                  | U | 4.3                                                                                      | U   | 4.3                                                                                    | U | 4.5                                                                                   | U |
| Fluoranthene                                                                                                         | 206-44-0  | 22,000                                                         | 30,000                                                                      | 6,300                                                                                            | 0.0083                                                                                | U   | 0.0082                                                                              | U   | 0.0086                                                                                | U   | 0.052                                                                                    |   | 0.42                                                                                     | U | 0.0089                                                                                   | U | 1,100                                                                                    | U | 0.0086                                                                                   | U   | 0.025                                                                                  |   | 0.009                                                                                 | U |
| Fluorene                                                                                                             | 86-73-7   | 22,000                                                         | 33,000                                                                      | 78                                                                                               | 0.0083                                                                                | U   | 0.0082                                                                              | U   | 0.0086                                                                                | U   | 0.0083                                                                                   | U | 0.42                                                                                     | U | 0.0089                                                                                   | U | 1,100                                                                                    | U | 0.0086                                                                                   | U   | 0.0086                                                                                 | U | 0.009                                                                                 | U |
| Hexachlorobenzene                                                                                                    | 118-74-1  | 1.1                                                            | 15                                                                          | 2.2                                                                                              | 0.0083                                                                                | U   | 0.0082                                                                              | U   | 0.0086                                                                                | U   | 0.0083                                                                                   | U | 0.42                                                                                     | U | 0.0089                                                                                   | U | 1,100                                                                                    | U | 0.0086                                                                                   | U   | 0.0086                                                                                 | U | 0.009                                                                                 | U |
| Hexachlorobutadiene                                                                                                  | 87-68-3   | 22                                                             | 320                                                                         | 1.9                                                                                              | 0.062                                                                                 | U   | 0.061                                                                               | U   | 0.064                                                                                 | U   | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U   | 0.065                                                                                  | U | 0.067                                                                                 | U |
| Hexachlorocyclopentadiene                                                                                            | 77-47-4   | 3,700                                                          | 5,200                                                                       | 400                                                                                              | 0.41                                                                                  | U   | 0.4                                                                                 | U   | 0.42                                                                                  | U   | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U   | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Hexachloroethane                                                                                                     | 67-72-1   | 120                                                            | 880                                                                         | 0.36                                                                                             | 0.062                                                                                 | U   | 0.061                                                                               | U   | 0.064                                                                                 | U   | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U   | 0.065                                                                                  | U | 0.067                                                                                 | U |
| Hexachloropropene                                                                                                    | 1888-71-7 | NS                                                             | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U   | 0.4                                                                                 | U   | 0.42                                                                                  | U   | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U   | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Indeno(1,2,3-cd)pyrene                                                                                               | 193-39-5  | 2.1                                                            | 29                                                                          | 13                                                                                               | 0.0083                                                                                | U   | 0.0082                                                                              | U   | 0.0086                                                                                | U   | 0.041                                                                                    |   | 0.42                                                                                     | U | 0.0089                                                                                   | U | 1,100                                                                                    | U | 0.0086                                                                                   | U   | 0.013                                                                                  |   | 0.009                                                                                 | U |
| Isodrin                                                                                                              | 465-73-6  | NS                                                             | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U   | 0.4                                                                                 | U   | 0.42                                                                                  | U   | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U   | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Isophorone                                                                                                           | 78-59-1   | 1,800                                                          | 26,000                                                                      | 0.42                                                                                             | 0.062                                                                                 | U   | 0.061                                                                               | U   | 0.064                                                                                 | U   | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U   | 0.065                                                                                  | U | 0.067                                                                                 | U |

Notes:

1. NS denotes No Standard for the Chemical
2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
5. U Qualifier denotes chemical was not detected above the listed Reporting Limit
6. J Qualifier denotes result was detected below the Reporting Limit
7. B Qualifier denotes chemical was also detected in the Method Blank

Laboratory Data Qualifiers (LQ)

- U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers (DV)

- B - Not detected substantially above the level reported in the laboratory or field blanks  
J - Analyte is present. Reported value may not be accurate or precise.  
K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.  
L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.  
R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample.  
Supporting data is necessary to confirm.



TABLE 18  
AOC 2 Soil Sample Results for Semi-Volatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit: |            | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil De<br>Minimis Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC2-12<br>AOC2-12-9.0<br>A9G110141007<br>07/10/2009<br>9-9.5<br>mg/Kg<br>Result/RL Q |   | AOC2-13<br>AOC2-13-7.0<br>A9G110141006<br>07/10/2009<br>7-8<br>mg/Kg<br>Result/RL Q |   | AOC2-14<br>AOC2-14-9.0<br>A9G110141005<br>07/10/2009<br>9-9.5<br>mg/Kg<br>Result/RL Q |   | AOC2-15<br>AOC2-15-11.0<br>A9G110141004<br>07/10/2009<br>11-11.5<br>mg/Kg<br>Result/RL Q |   | AOC2-16<br>AOC2-16-10.0<br>A9G110141003<br>07/10/2009<br>10-10.5<br>mg/Kg<br>Result/RL Q |   | AOC2-17<br>AOC2-17-11.0<br>A9G100171013<br>07/09/2009<br>11-11.5<br>mg/Kg<br>Result/RL Q |   | AOC2-18<br>AOC2-18-11.0<br>A9G100171012<br>07/09/2009<br>11-11.5<br>mg/Kg<br>Result/RL Q |   | AOC2-19<br>AOC2-19-10.0<br>A9G100171011<br>07/09/2009<br>10-10.5<br>mg/Kg<br>Result/RL Q |   | AOC2-20<br>AOC2-20-9.5<br>A9G100171010<br>07/09/2009<br>9.5-10<br>mg/Kg<br>Result/RL Q |   | AOC2-03<br>AOC2-21-8.0<br>A9G150161006<br>07/13/2009<br>8-8.5<br>mg/Kg<br>Result/RL Q |   |
|----------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---|-------------------------------------------------------------------------------------|---|---------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------|---|----------------------------------------------------------------------------------------|---|---------------------------------------------------------------------------------------|---|
| Chemical Name                                                                                                        | CAS RN     |                                                                |                                                                             |                                                                                                  |                                                                                       |   |                                                                                     |   |                                                                                       |   |                                                                                          |   |                                                                                          |   |                                                                                          |   |                                                                                          |   |                                                                                          |   |                                                                                        |   |                                                                                       |   |
| Isosafrole                                                                                                           | 120-58-1   | NS                                                             | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Methapyrilene                                                                                                        | 91-80-5    | NS                                                             | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Methyl methanesulfonate                                                                                              | 66-27-3    | 17                                                             | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Methyl parathion                                                                                                     | 298-00-0   | 150                                                            | 220                                                                         | 0.085                                                                                            | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Naphthalene                                                                                                          | 91-20-3    | 18                                                             | 190                                                                         | 0.32                                                                                             | 0.0083                                                                                | U | 0.0082                                                                              | U | 0.0086                                                                                | U | 0.0083                                                                                   | U | 0.42                                                                                     | U | 0.0089                                                                                   | U | 1,100                                                                                    | U | 0.0086                                                                                   | U | 0.042                                                                                  |   | 0.009                                                                                 | U |
| Nitrobenzene                                                                                                         | 98-95-3    | 24                                                             | 110                                                                         | 0.022                                                                                            | 0.12                                                                                  | U | 0.12                                                                                | U | 0.13                                                                                  | U | 0.12                                                                                     | U | 6.4                                                                                      | U | 0.13                                                                                     | U | 16,000                                                                                   | U | 0.13                                                                                     | U | 0.13                                                                                   | U | 0.13                                                                                  | U |
| N-Nitrosodiethylamine                                                                                                | 55-18-5    | 0.011                                                          | 0.16                                                                        | 0.0000023                                                                                        | 0.12                                                                                  | U | 0.12                                                                                | U | 0.13                                                                                  | U | 0.12                                                                                     | U | 6.4                                                                                      | U | 0.13                                                                                     | U | 16,000                                                                                   | U | 0.13                                                                                     | U | 0.13                                                                                   | U | 0.13                                                                                  | U |
| N-Nitrosodimethylamine                                                                                               | 62-75-9    | 0.034                                                          | 0.48                                                                        | 0.0000057                                                                                        | 0.12                                                                                  | U | 0.12                                                                                | U | 0.13                                                                                  | U | 0.12                                                                                     | U | 6.4                                                                                      | U | 0.13                                                                                     | U | 16,000                                                                                   | U | 0.13                                                                                     | U | 0.13                                                                                   | U | 0.13                                                                                  | U |
| N-Nitrosodi-n-butylamine                                                                                             | 924-16-3   | 0.40                                                           | 0.62                                                                        | 0.000029                                                                                         | 0.12                                                                                  | U | 0.12                                                                                | U | 0.13                                                                                  | U | 0.12                                                                                     | U | 6.4                                                                                      | U | 0.13                                                                                     | U | 16,000                                                                                   | U | 0.13                                                                                     | U | 0.13                                                                                   | U | 0.13                                                                                  | U |
| N-Nitrosodi-n-propylamine                                                                                            | 621-64-7   | 0.25                                                           | 3.5                                                                         | 0.000048                                                                                         | 0.062                                                                                 | U | 0.061                                                                               | U | 0.064                                                                                 | U | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U | 0.065                                                                                  | U | 0.067                                                                                 | U |
| N-Nitrosodiphenylamine                                                                                               | 86-30-6    | 350                                                            | 5,000                                                                       | 0.76                                                                                             | 0.062                                                                                 | U | 0.061                                                                               | U | 0.064                                                                                 | U | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U | 0.053                                                                                  | J | 0.067                                                                                 | U |
| N-Nitrosomethylethylamine                                                                                            | 10595-95-6 | 0.078                                                          | 1.1                                                                         | 0.000021                                                                                         | 0.12                                                                                  | U | 0.12                                                                                | U | 0.13                                                                                  | U | 0.12                                                                                     | U | 6.4                                                                                      | U | 0.13                                                                                     | U | 16,000                                                                                   | U | 0.13                                                                                     | U | 0.13                                                                                   | U | 0.13                                                                                  | U |
| N-Nitrosomorpholine                                                                                                  | 59-89-2    | 0.26                                                           | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| N-Nitrosopiperidine                                                                                                  | 100-75-4   | 0.18                                                           | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| N-Nitrosopyrrolidine                                                                                                 | 930-55-2   | 0.82                                                           | 12                                                                          | 0.00033                                                                                          | 0.062                                                                                 | U | 0.061                                                                               | U | 0.064                                                                                 | U | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U | 0.065                                                                                  | U | 0.067                                                                                 | U |
| O,O,O-Triethyl phosphorothioate                                                                                      | 126-68-1   | NS                                                             | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| o-Toluidine                                                                                                          | 95-53-4    | 9.6                                                            | 100                                                                         | 0.0057                                                                                           | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Parathion                                                                                                            | 56-38-2    | 3,700                                                          | 5,300                                                                       | 10                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| p-Dimethylaminoazobenzene                                                                                            | 60-11-7    | 0.37                                                           | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Pentachlorobenzene                                                                                                   | 608-93-5   | 490                                                            | 700                                                                         | 20                                                                                               | 0.12                                                                                  | U | 0.12                                                                                | U | 0.13                                                                                  | U | 0.12                                                                                     | U | 6.4                                                                                      | U | 0.13                                                                                     | U | 16,000                                                                                   | U | 0.13                                                                                     | U | 0.13                                                                                   | U | 0.13                                                                                  | U |
| Pentachloroethane                                                                                                    | 76-01-7    | 19                                                             | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Pentachloronitrobenzene                                                                                              | 82-68-8    | 6.6                                                            | 95                                                                          | 0.083                                                                                            | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 520,00                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Pentachlorophenol                                                                                                    | 87-86-5    | 9                                                              | 110                                                                         | 0.028                                                                                            | 0.19                                                                                  | U | 0.18                                                                                | U | 0.19                                                                                  | U | 0.19                                                                                     | U | 9.5                                                                                      | U | 0.2                                                                                      | U | 24,000                                                                                   | U | 0.19                                                                                     | U | 0.19                                                                                   | U | 0.2                                                                                   | U |
| Phenacetin                                                                                                           | 62-44-2    | 780                                                            | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Phenanthrene                                                                                                         | 85-01-8    | NS                                                             | 410,000                                                                     | 1,500                                                                                            | 0.0083                                                                                | U | 0.0082                                                                              | U | 0.0086                                                                                | U | 0.023                                                                                    |   | 0.42                                                                                     | U | 0.0096                                                                                   |   | 1,100                                                                                    | U | 0.0086                                                                                   | U | 0.056                                                                                  |   | 0.009                                                                                 | U |
| Phenol                                                                                                               | 108-95-2   | 180,000                                                        | 260,000                                                                     | 56                                                                                               | 0.062                                                                                 | U | 0.061                                                                               | U | 0.064                                                                                 | U | 0.062                                                                                    | U | 3.2                                                                                      | U | 0.067                                                                                    | U | 7,900                                                                                    | U | 0.064                                                                                    | U | 0.065                                                                                  | U | 0.067                                                                                 | U |
| Phorate                                                                                                              | 298-02-2   | 120                                                            | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| p-Phenylene diamine                                                                                                  | 106-50-3   | 120,000                                                        | 170,000                                                                     | 48                                                                                               | 0.82                                                                                  | U | 0.81                                                                                | U | 0.85                                                                                  | U | 0.82                                                                                     | U | 42                                                                                       | U | 0.89                                                                                     | U | 100,000                                                                                  | U | 0.85                                                                                     | U | 0.85                                                                                   | U | 0.89                                                                                  | U |
| Pronamide                                                                                                            | 23950-58-5 | 46,000                                                         | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Pyrene                                                                                                               | 129-00-0   | 17,000                                                         | 54,000                                                                      | 500                                                                                              | 0.0083                                                                                | U | 0.0082                                                                              | U | 0.0086                                                                                | U | 0.05                                                                                     |   | 0.42                                                                                     | U | 0.0089                                                                                   | U | 1,100                                                                                    | U | 0.0086                                                                                   | U | 0.027                                                                                  |   | 0.009                                                                                 | U |
| Pyridine                                                                                                             | 110-86-1   | 1,000                                                          | 880                                                                         | 0.19                                                                                             | 0.12                                                                                  | U | 0.12                                                                                | U | 0.13                                                                                  | U | 0.12                                                                                     | U | 6.4                                                                                      | U | 0.13                                                                                     | U | 16,000                                                                                   | U | 0.13                                                                                     | U | 0.13                                                                                   | U | 0.13                                                                                  | U |
| Safrole                                                                                                              | 94-59-7    | 7.8                                                            | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Tetraethyldithiopyrophosphate                                                                                        | 3689-24-5  | 310                                                            | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |
| Thionazin                                                                                                            | 297-97-2   | NS                                                             | NS                                                                          | NS                                                                                               | 0.41                                                                                  | U | 0.4                                                                                 | U | 0.42                                                                                  | U | 0.41                                                                                     | U | 21                                                                                       | U | 0.44                                                                                     | U | 52,000                                                                                   | U | 0.43                                                                                     | U | 0.43                                                                                   | U | 0.45                                                                                  | U |

- Notes:
1. NS denotes No Standard for the Chemical
  2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
  3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
  4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
  5. U Qualifier denotes chemical was not detected above the listed Reporting Limit
  6. J Qualifier denotes result was detected below the Reporting Limit
  7. B Qualifier denotes chemical was also detected in the Method Blank

- Laboratory Data Qualifiers (LQ)
- U - Target analyte not detected above listed Reporting Limit
- J - Estimated result. Result is less than Reporting Limit
- B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

- Data Validation Qualifiers (DV)
- B - Not detected substantially above the level reported in the laboratory or field blanks
- J - Analyte is present. Reported value may not be accurate or precise.
- K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.
- L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.
- R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample.
- Supporting data is necessary to confirm.

Table 19  
AOC 2 Soil Sample Results for PCBs and Metals  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:          |            | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC2-01      |    |           | AOC2-02      |       |           | AOC2-03      |    |           | AOC2-04      |    |           | AOC2-05      |    |           | AOC2-06      |    |           | AOC2-07      |    |           | AOC2-08      |    |       |    |   |  |  |
|---------------------------|------------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------|----|-----------|--------------|-------|-----------|--------------|----|-----------|--------------|----|-----------|--------------|----|-----------|--------------|----|-----------|--------------|----|-----------|--------------|----|-------|----|---|--|--|
| Soil Sample ID:           |            |                                                                |                                                                                |                                                                                                  | AOC2-01-7.0  |    |           | AOC2-02-7.0  |       |           | AOC2-03-8.0  |    |           | AOC2-04-7.5  |    |           | AOC2-05-9.5  |    |           | AOC2-06-9.5  |    |           | AOC2-07-9.0  |    |           | AOC2-08-8.0  |    |       |    |   |  |  |
| Laboratory Sample ID:     |            |                                                                |                                                                                |                                                                                                  | A9G150161008 |    |           | A9G150161007 |       |           | A9G150161005 |    |           | A9G150161009 |    |           | A9G150150004 |    |           | A9G150150003 |    |           | A9G150161003 |    |           | A9G150161004 |    |       |    |   |  |  |
| Sample Date:              |            |                                                                |                                                                                |                                                                                                  | 07/13/2009   |    |           | 07/13/2009   |       |           | 07/13/2009   |    |           | 07/13/2009   |    |           | 07/14/2009   |    |           | 07/14/2009   |    |           | 07/13/2009   |    |           | 07/13/2009   |    |       |    |   |  |  |
| Sample Depth:             |            |                                                                |                                                                                |                                                                                                  | 7-7.5        |    |           | 7-7.5        |       |           | 8-8.5        |    |           | 7.5-8        |    |           | 9.5-10       |    |           | 9.5-10       |    |           | 9-9.5        |    |           | 8-8.5        |    |       |    |   |  |  |
| Concentration Unit:       |            |                                                                |                                                                                |                                                                                                  | mg/Kg        |    |           | mg/Kg        |       |           | mg/Kg        |    |           | mg/Kg        |    |           | mg/Kg        |    |           | mg/Kg        |    |           | mg/Kg        |    |           | mg/Kg        |    |       |    |   |  |  |
| Chemical Name             |            | CAS RN                                                         |                                                                                |                                                                                                  |              |    | Result/RL | LQ           | DV    | Result/RL | LQ           | DV | Result/RL | LQ           | DV | Result/RL | LQ           | DV | Result/RL | LQ           | DV | Result/RL | LQ           | DV | Result/RL | LQ           | DV |       |    |   |  |  |
| Polychlorinated Biphenyls |            |                                                                |                                                                                |                                                                                                  |              |    |           |              |       |           |              |    |           |              |    |           |              |    |           |              |    |           |              |    |           |              |    |       |    |   |  |  |
| Total PCBs                | 1336-36-3  | NS                                                             | 10                                                                             | 0.9                                                                                              | 0.074        |    |           |              | 0.077 |           |              |    | 4.1       |              |    | 0.063     |              |    | 0.04      | U            |    | 0.041     | U            |    | 0.042     | U            |    | 0.27  |    |   |  |  |
| Aroclor 1016              | 12674-11-2 | 21                                                             | 50                                                                             | 1.3                                                                                              | 0.044        | U  |           |              | 0.046 | U         |              |    | 0.44      | U            |    | 0.071     | U            |    | 0.04      | U            |    | 0.041     | U            |    | 0.042     | U            |    | 0.085 | U  |   |  |  |
| Aroclor 1221              | 11104-28-2 | 0.54                                                           | 10                                                                             | 0.0023                                                                                           | 0.044        | U  |           |              | 0.046 | U         |              |    | 0.44      | U            |    | 0.071     | U            |    | 0.04      | U            |    | 0.041     | U            |    | 0.042     | U            |    | 0.085 | U  |   |  |  |
| Aroclor 1232              | 11141-16-5 | 0.54                                                           | 10                                                                             | 0.0023                                                                                           | 0.044        | U  |           |              | 0.046 | U         |              |    | 0.44      | U            |    | 0.071     | U            |    | 0.04      | U            |    | 0.041     | U            |    | 0.042     | U            |    | 0.085 | U  |   |  |  |
| Aroclor 1242              | 53469-21-9 | 0.74                                                           | 10                                                                             | 0.045                                                                                            | 0.044        | U  |           |              | 0.046 | U         |              |    | 0.44      | U            |    | 0.071     | U            |    | 0.04      | U            |    | 0.041     | U            |    | 0.042     | U            |    | 0.12  |    |   |  |  |
| Aroclor 1248              | 12672-29-6 | 0.74                                                           | 10                                                                             | 0.059                                                                                            | 0.074        |    |           |              | 0.077 |           |              |    | 4.1       |              |    | 0.063     | J            |    | 0.04      | U            |    | 0.041     | U            |    | 0.042     | U            |    | 0.085 | U  |   |  |  |
| Aroclor 1254              | 11097-69-1 | 0.74                                                           | 10                                                                             | 0.27                                                                                             | 0.044        | U  |           |              | 0.046 | U         |              |    | 0.44      | U            |    | 0.071     | U            |    | 0.04      | U            |    | 0.041     | U            |    | 0.042     | U            |    | 0.15  |    |   |  |  |
| Aroclor 1260              | 11096-82-5 | 0.74                                                           | 10                                                                             | 0.39                                                                                             | 0.044        | U  |           |              | 0.046 | U         |              |    | 0.44      | U            |    | 0.071     | U            |    | 0.04      | U            |    | 0.041     | U            |    | 0.042     | U            |    | 0.085 | U  |   |  |  |
| Metals                    |            |                                                                |                                                                                |                                                                                                  |              |    |           |              |       |           |              |    |           |              |    |           |              |    |           |              |    |           |              |    |           |              |    |       |    |   |  |  |
| Antimony                  | 7440-36-0  | 410                                                            | 820                                                                            | 5.4                                                                                              | 0.42         |    | L         |              | 0.17  | J         | L            |    | 0.099     | J            | L  | 1.5       | JG           | L  | 0.039     | J            | L  | 0.066     | J            | L  | 0.12      | J            | L  | 0.18  | J  | L |  |  |
| Arsenic                   | 7440-38-2  | 1.6                                                            | 27                                                                             | 5.8                                                                                              | 6            |    | J         |              | 3.5   |           | J            |    | 2.8       |              |    | 48.1      |              | J  | 1.9       |              | J  | 3.2       |              | J  | 5.6       |              | J  | 5.8   |    | J |  |  |
| Barium                    | 7440-39-3  | 190,000                                                        | 290,000                                                                        | 1,600                                                                                            | 1,780        | B  |           |              | 348   | B         |              |    | 417       | B            |    | 477       | J            |    | 100       | B            |    | 173       | B            |    | 65.8      | B            |    | 703   | B  |   |  |  |
| Beryllium                 | 7440-41-7  | 2,000                                                          | 3,700                                                                          | 63                                                                                               | 1.4          |    |           |              | 2.3   |           |              |    | 1.4       |              |    | 5.4       |              |    | 0.44      |              |    | 0.75      |              |    | 0.78      |              |    | 1.2   |    |   |  |  |
| Cadmium                   | 7440-43-9  | 800                                                            | 1,000                                                                          | 7.5                                                                                              | 0.045        | J  |           |              | 0.15  |           |              |    | 1.5       |              |    | 0.14      | J            |    | 0.12      | U            |    | 0.12      | U            |    | 0.026     | J            |    | 0.11  | J  |   |  |  |
| Chromium                  | 7440-47-3  | NS                                                             | NS                                                                             | NS                                                                                               | 19           | B  |           |              | 17.4  | B         |              |    | 17.1      | B            |    | 17.4      | B            |    | 11.2      | B            |    | 14.8      | B            |    | 13.4      | B            |    | 14.6  | B  |   |  |  |
| Cobalt                    | 7440-48-4  | 300                                                            | 19,000                                                                         | 660                                                                                              | 2.6          |    |           |              | 3.4   |           |              |    | 2.4       |              |    | 11.7      |              |    | 2.8       |              |    | 5.1       |              |    | 7.6       |              |    | 10.6  |    |   |  |  |
| Copper                    | 7440-50-8  | 41,000                                                         | 82,000                                                                         | 1,000                                                                                            | 19.2         | B  | B         |              | 25.2  | B         |              |    | 22        | B            | J  | 116       | B            |    | 11.3      | B            | B  | 10.7      | B            | B  | 16.3      | B            | B  | 19.9  | B  |   |  |  |
| Lead                      | 7439-92-1  | 800                                                            | 1,000                                                                          | 270                                                                                              | 24.4         | B  | L         |              | 20    | B         | L            |    | 18.6      | B            | L  | 53.5      | B            | L  | 10.4      | B            | L  | 12.3      | B            | L  | 14.7      | B            | L  | 30.5  | B  | L |  |  |
| Mercury                   | 7439-97-6  | 34                                                             | 610                                                                            | 2.1                                                                                              | 0.045        | J  |           |              | 0.062 | J         |              |    | 0.046     | J            |    | 0.12      | J            |    | 0.034     | J            |    | 0.026     | J            |    | 0.027     | J            |    | 0.062 | J  |   |  |  |
| Nickel                    | 7440-02-0  | 20,000                                                         | 41,000                                                                         | 130                                                                                              | 13.7         | B  |           |              | 16.1  | B         |              |    | 10.1      | B            |    | 23.4      | B            |    | 9         | B            |    | 13        | B            |    | 16.5      | B            |    | 21.1  | B  |   |  |  |
| Selenium                  | 7782-49-2  | 5,100                                                          | 10,000                                                                         | 5.2                                                                                              | 2.3          |    |           |              | 2.7   |           |              |    | 2.1       |              |    | 27.8      |              |    | 1.1       |              | K  | 1.1       |              | K  | 1.3       |              |    | 1.6   |    |   |  |  |
| Silver                    | 7440-22-4  | 5,100                                                          | 10,000                                                                         | 31                                                                                               | 0.056        | J  |           |              | 0.079 | J         |              |    | 0.1       | J            |    | 0.24      |              |    | 0.045     | J            |    | 0.027     | J            |    | 0.13      | U            |    | 0.028 | J  |   |  |  |
| Thallium                  | 7440-28-0  | NS                                                             | 160                                                                            | 2.8                                                                                              | 0.24         | B  |           |              | 0.25  | B         |              |    | 0.22      | B            |    | 1.6       | B            |    | 0.12      | B            |    | 0.15      | B            |    | 0.14      | B            |    | 0.15  | B  |   |  |  |
| Tin                       | 7440-31-5  | 610,000                                                        | 1,000,000                                                                      | 110,000                                                                                          | 1.3          | JB |           |              | 0.82  | JB        | B            |    | 0.69      | JB           | B  | 4.1       | JBG          |    | 0.38      | JB           | B  | 0.48      | JB           | B  | 0.5       | JB           | B  | 0.61  | JB | B |  |  |
| Vanadium                  | 7440-62-2  | 72                                                             | 2,000                                                                          | 730                                                                                              | 22.3         |    | L         |              | 19.9  |           | L            |    | 19.6      |              | L  | 45.1      |              | L  | 9.6       |              | L  | 16        |              | L  | 19.9      |              | L  | 22.3  |    | L |  |  |
| Zinc                      | 7440-66-6  | 310,000                                                        | 610,000                                                                        | 14,000                                                                                           | 43.7         | B  |           |              | 33.6  | B         |              |    | 40.6      | B            | J  | 31.8      | B            |    | 27.7      | B            |    | 43        | B            |    | 48.4      | B            |    | 89.8  | B  |   |  |  |

- Notes:
1. NS denotes No Standard for the Chemical
  2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
  3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
  4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Laboratory Data Qualifiers (LQ)

U - Target analyte not detected above listed Reporting Limit

J - Estimated result. Result is less than Reporting Limit

B - Method blank contamination. The associated method blank contains the target analyte

G - Elevated Reporting Limit due to matrix interference

Data Validation Qualifiers (DV)

B - Not detected substantially above the level reported in the laboratory or field blanks

J - Analyte is present. Reported value may not be accurate or precise.

K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.

L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.

Table 19  
AOC 2 Soil Sample Results for PCBs and Metals  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:          |            | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC2-09      |    |    | AOC2-10      |    |    | AOC2-11      |           |   | AOC2-12      |    |           | AOC2-13      |    |    | AOC2-14      |    |    | AOC2-15      |           |   | AOC2-16      |       |    |   |
|---------------------------|------------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------|----|----|--------------|----|----|--------------|-----------|---|--------------|----|-----------|--------------|----|----|--------------|----|----|--------------|-----------|---|--------------|-------|----|---|
| Soil Sample ID:           |            |                                                                |                                                                                |                                                                                                  | AOC2-09-9.5  |    |    | AOC2-10-10.0 |    |    | AOC2-11-6.5  |           |   | AOC2-12-9.0  |    |           | AOC2-13-7.0  |    |    | AOC2-14-9.0  |    |    | AOC2-15-11.0 |           |   | AOC2-16-10.0 |       |    |   |
| Laboratory Sample ID:     |            |                                                                |                                                                                |                                                                                                  | A9G150150005 |    |    | A9G110141009 |    |    | A9G110141008 |           |   | A9G110141007 |    |           | A9G110141006 |    |    | A9G110141005 |    |    | A9G110141004 |           |   | A9G110141003 |       |    |   |
| Sample Date:              |            |                                                                |                                                                                |                                                                                                  | 07/14/2009   |    |    | 07/10/2009   |    |    | 07/10/2009   |           |   | 07/10/2009   |    |           | 07/10/2009   |    |    | 07/10/2009   |    |    | 07/10/2009   |           |   | 07/10/2009   |       |    |   |
| Sample Depth:             |            |                                                                |                                                                                |                                                                                                  | 9.5-10       |    |    | 10-10.5      |    |    | 6.5-7        |           |   | 9-9.5        |    |           | 7-8          |    |    | 9-9.5        |    |    | 11-11.5      |           |   | 10-10.5      |       |    |   |
| Concentration Unit:       |            | mg/Kg                                                          |                                                                                |                                                                                                  | mg/Kg        |    |    | mg/Kg        |    |    | mg/Kg        |           |   | mg/Kg        |    |           | mg/Kg        |    |    | mg/Kg        |    |    | mg/Kg        |           |   |              |       |    |   |
| Chemical Name             |            | CAS RN                                                         |                                                                                | Result/RL                                                                                        |              | LQ | DV | Result/RL    |    | LQ | DV           | Result/RL |   | LQ           | DV | Result/RL |              | LQ | DV | Result/RL    |    | LQ | DV           | Result/RL |   | LQ           | DV    |    |   |
| Polychlorinated Biphenyls |            |                                                                |                                                                                |                                                                                                  |              |    |    |              |    |    |              |           |   |              |    |           |              |    |    |              |    |    |              |           |   |              |       |    |   |
| Total PCBs                | 1336-36-3  | NS                                                             | 10                                                                             | 0.9                                                                                              | 0.042        | U  |    | 0.041        | U  |    |              | 0.075     |   |              |    | 0.029     |              |    |    | 0.04         | U  |    | 0.023        |           |   |              | 0.042 | U  |   |
| Aroclor 1016              | 12674-11-2 | 21                                                             | 50                                                                             | 1.3                                                                                              | 0.042        | U  |    | 0.041        | U  |    |              | 0.036     | U |              |    | 0.041     | U            |    |    | 0.04         | U  |    | 0.042        | U         |   |              | 0.041 | U  |   |
| Aroclor 1221              | 11104-28-2 | 0.54                                                           | 10                                                                             | 0.0023                                                                                           | 0.042        | U  |    | 0.041        | U  |    |              | 0.036     | U |              |    | 0.041     | U            |    |    | 0.04         | U  |    | 0.042        | U         |   |              | 0.041 | U  |   |
| Aroclor 1232              | 11141-16-5 | 0.54                                                           | 10                                                                             | 0.0023                                                                                           | 0.042        | U  |    | 0.041        | U  |    |              | 0.036     | U |              |    | 0.041     | U            |    |    | 0.04         | U  |    | 0.042        | U         |   |              | 0.041 | U  |   |
| Aroclor 1242              | 53469-21-9 | 0.74                                                           | 10                                                                             | 0.045                                                                                            | 0.042        | U  |    | 0.041        | U  |    |              | 0.036     | U |              |    | 0.041     | U            |    |    | 0.04         | U  |    | 0.042        | U         |   |              | 0.041 | U  |   |
| Aroclor 1248              | 12672-29-6 | 0.74                                                           | 10                                                                             | 0.059                                                                                            | 0.042        | U  |    | 0.041        | U  |    |              | 0.075     |   |              |    | 0.029     | J            |    |    | 0.04         | U  |    | 0.023        | J         |   |              | 0.045 |    |   |
| Aroclor 1254              | 11097-69-1 | 0.74                                                           | 10                                                                             | 0.27                                                                                             | 0.042        | U  |    | 0.041        | U  |    |              | 0.036     | U |              |    | 0.041     | U            |    |    | 0.04         | U  |    | 0.042        | U         |   |              | 0.041 | U  |   |
| Aroclor 1260              | 11096-82-5 | 0.74                                                           | 10                                                                             | 0.39                                                                                             | 0.042        | U  |    | 0.041        | U  |    |              | 0.036     | U |              |    | 0.041     | U            |    |    | 0.04         | U  |    | 0.042        | U         |   |              | 0.041 | U  |   |
| Metals                    |            |                                                                |                                                                                |                                                                                                  |              |    |    |              |    |    |              |           |   |              |    |           |              |    |    |              |    |    |              |           |   |              |       |    |   |
| Antimony                  | 7440-36-0  | 410                                                            | 820                                                                            | 5.4                                                                                              | 0.078        | J  | L  | 0.48         |    | L  | 0.053        | J         | L |              |    | 0.11      | J            | L  |    | 0.079        | J  | L  | 0.13         | J         | L |              | 0.13  | J  | L |
| Arsenic                   | 7440-38-2  | 1.6                                                            | 27                                                                             | 5.8                                                                                              | 1.7          |    | J  | 5            |    | L  | 3            |           |   |              |    | 4.1       |              |    |    | 4.9          |    |    | 5.1          |           |   |              | 3.4   |    |   |
| Barium                    | 7440-39-3  | 190,000                                                        | 290,000                                                                        | 1,600                                                                                            | 462          | B  |    | 17.7         | B  |    | 55.7         | B         |   |              |    | 27.9      | B            |    |    | 74.2         | B  |    | 228          | B         |   |              | 390   | B  |   |
| Beryllium                 | 7440-41-7  | 2,000                                                          | 3,700                                                                          | 63                                                                                               | 0.59         |    |    | 0.19         |    | L  | 0.35         |           |   |              |    | 0.9       |              |    |    | 0.72         |    |    | 0.81         |           |   |              | 0.89  |    |   |
| Cadmium                   | 7440-43-9  | 800                                                            | 1,000                                                                          | 7.5                                                                                              | 0.13         | U  |    | 0.084        | J  | L  | 0.04         | J         |   |              |    | 0.028     | J            |    |    | 0.081        | J  |    | 0.076        | J         |   |              | 0.046 | J  |   |
| Chromium                  | 7440-47-3  | NS                                                             | NS                                                                             | NS                                                                                               | 14.9         | B  |    | 4.3          | B  |    | 3.8          | B         |   |              |    | 16.3      | B            |    |    | 9.4          | B  |    | 12.6         | B         |   |              | 12.4  | B  |   |
| Cobalt                    | 7440-48-4  | 300                                                            | 19,000                                                                         | 660                                                                                              | 2.7          |    |    | 8.6          |    |    | 3.9          |           |   |              |    | 8.9       |              |    |    | 7.3          |    |    | 9.3          |           |   |              | 10.7  |    |   |
| Copper                    | 7440-50-8  | 41,000                                                         | 82,000                                                                         | 1,000                                                                                            | 17.6         | B  | B  | 10.5         | B  | L  | 4.1          | B         |   |              |    | 16.8      | B            |    |    | 10.4         | B  |    | 16.4         | B         |   |              | 15    | B  |   |
| Lead                      | 7439-92-1  | 800                                                            | 1,000                                                                          | 270                                                                                              | 15.1         | B  | L  | 4.8          | B  |    | 4.5          | B         | K |              |    | 12.3      | B            | K  |    | 8.1          | B  | K  | 16.4         | B         | K |              | 18.5  | B  |   |
| Mercury                   | 7439-97-6  | 34                                                             | 610                                                                            | 2.1                                                                                              | 0.041        | J  |    | 0.12         | U  |    | 0.11         | U         |   |              |    | 0.12      | U            |    |    | 0.024        | J  |    | 0.13         | U         |   |              | 0.026 | J  |   |
| Nickel                    | 7440-02-0  | 20,000                                                         | 41,000                                                                         | 130                                                                                              | 8.7          | B  |    | 18.2         | B  |    | 8.5          | B         |   |              |    | 16        | B            |    |    | 11.9         | B  |    | 17.2         | B         |   |              | 14.5  | B  |   |
| Selenium                  | 7782-49-2  | 5,100                                                          | 10,000                                                                         | 5.2                                                                                              | 1.2          |    | K  | 0.36         | B  | L  | 0.29         | J         | L |              |    | 0.96      |              | L  |    | 0.64         |    | L  | 0.92         |           | L |              | 0.84  |    |   |
| Silver                    | 7440-22-4  | 5,100                                                          | 10,000                                                                         | 31                                                                                               | 0.045        | J  |    | 0.12         | U  | L  | 0.11         | U         |   |              |    | 0.12      | U            |    |    | 0.12         | U  |    | 0.024        | J         |   |              | 0.022 | J  |   |
| Thallium                  | 7440-28-0  | NS                                                             | 160                                                                            | 2.8                                                                                              | 0.14         | B  |    | 0.041        | J  | L  | 0.039        | J         |   |              |    | 0.14      |              |    |    | 0.089        | J  |    | 0.14         |           |   |              | 0.11  | J  |   |
| Tin                       | 7440-31-5  | 610,000                                                        | 1,000,000                                                                      | 110,000                                                                                          | 0.48         | JB | B  | 2.2          | JB | BL | 2.2          | JB        | B |              |    | 1.8       | JB           | B  |    | 3.1          | JB | B  | 2.8          | JB        | B |              | 2.1   | JB |   |
| Vanadium                  | 7440-62-2  | 72                                                             | 2,000                                                                          | 730                                                                                              | 18.1         |    | L  | 6.4          |    | L  | 6            |           |   |              |    | 21        |              |    |    | 12.8         |    |    | 16.7         |           |   |              | 16.3  |    |   |
| Zinc                      | 7440-66-6  | 310,000                                                        | 610,000                                                                        | 14,000                                                                                           | 27           | B  |    | 29.1         | B  |    | 17.2         | B         |   |              |    | 46.1      | B            |    |    | 41.4         | B  |    | 42.3         | B         |   |              | 50    | B  |   |

- Notes:
1. NS denotes No Standard for the Chemical
  2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
  3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
  4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Laboratory Data Qualifiers (LQ)

U - Target analyte not detected above listed Reporting Limit

J - Estimated result. Result is less than Reporting Limit

B - Method blank contamination. The associated method blank contains the target analyte

G - Elevated Reporting Limit due to matrix interference

Data Validation Qualifiers (DV)

B - Not detected substantially above the level reported in the laboratory or field blanks

J - Analyte is present. Reported value may not be accurate or precise.

K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.

L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.

Table 19  
AOC 2 Soil Sample Results for PCBs and Metals  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit: |            | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC2-17<br>AOC2-17-11.0<br>A9G100171013<br>07/09/2009<br>11-11.5<br>mg/Kg |    |    | AOC2-18<br>AOC2-18-11.0<br>A9G100171012<br>07/09/2009<br>11-11.5<br>mg/Kg |    |    | AOC2-19<br>AOC2-19-10.0<br>A9G100171011<br>07/09/2009<br>10-10.5<br>mg/Kg |    |    | AOC2-20<br>AOC2-20-9.5<br>A9G100171010<br>07/09/2009<br>9.5-10<br>mg/Kg |    |    | AOC2-03<br>AOC2-21-8.0<br>A9G150161006<br>07/13/2009<br>8-8.5<br>mg/Kg |    |    |
|----------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|----|----|-------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|
| Chemical Name                                                                                                        | CAS RN     |                                                                |                                                                                |                                                                                                  | Result/RL                                                                 | LQ | DV | Result/RL                                                                 | LQ | DV | Result/RL                                                                 | LQ | DV | Result/RL                                                               | LQ | DV | Result/RL                                                              | LQ | DV |
| Polychlorinated Biphenyls                                                                                            |            |                                                                |                                                                                |                                                                                                  |                                                                           |    |    |                                                                           |    |    |                                                                           |    |    |                                                                         |    |    |                                                                        |    |    |
| Total PCBs                                                                                                           | 1336-36-3  | NS                                                             | 10                                                                             | 0.9                                                                                              | 0.084                                                                     |    |    | <b>3,400</b>                                                              |    |    | 0.043                                                                     | U  |    | 0.043                                                                   | U  |    | <u>3.5</u>                                                             |    |    |
| Aroclor 1016                                                                                                         | 12674-11-2 | 21                                                             | 50                                                                             | 1.3                                                                                              | 0.044                                                                     | U  |    | 520                                                                       | U  |    | 0.043                                                                     | U  |    | 0.043                                                                   | U  |    | 0.22                                                                   | U  |    |
| Aroclor 1221                                                                                                         | 11104-28-2 | 0.54                                                           | 10                                                                             | 0.0023                                                                                           | 0.044                                                                     | U  |    | 520                                                                       | U  |    | 0.043                                                                     | U  |    | 0.043                                                                   | U  |    | 0.22                                                                   | U  |    |
| Aroclor 1232                                                                                                         | 11141-16-5 | 0.54                                                           | 10                                                                             | 0.0023                                                                                           | 0.044                                                                     | U  |    | 520                                                                       | U  |    | 0.043                                                                     | U  |    | 0.043                                                                   | U  |    | 0.22                                                                   | U  |    |
| Aroclor 1242                                                                                                         | 53469-21-9 | 0.74                                                           | 10                                                                             | 0.045                                                                                            | 0.044                                                                     | U  |    | 520                                                                       | U  |    | 0.043                                                                     | U  |    | 0.043                                                                   | U  |    | 0.22                                                                   | U  |    |
| Aroclor 1248                                                                                                         | 12672-29-6 | 0.74                                                           | 10                                                                             | 0.059                                                                                            | <u>0.084</u>                                                              |    |    | <b>3,400</b>                                                              |    |    | 0.043                                                                     | U  |    | 0.043                                                                   | U  |    | <u>3.5</u>                                                             |    |    |
| Aroclor 1254                                                                                                         | 11097-69-1 | 0.74                                                           | 10                                                                             | 0.27                                                                                             | 0.044                                                                     | U  |    | 520                                                                       | U  |    | 0.043                                                                     | U  |    | 0.043                                                                   | U  |    | 0.22                                                                   | U  |    |
| Aroclor 1260                                                                                                         | 11096-82-5 | 0.74                                                           | 10                                                                             | 0.39                                                                                             | 0.044                                                                     | U  |    | 520                                                                       | U  |    | 0.043                                                                     | U  |    | 0.043                                                                   | U  |    | 0.22                                                                   | U  |    |
| Metals                                                                                                               |            |                                                                |                                                                                |                                                                                                  |                                                                           |    |    |                                                                           |    |    |                                                                           |    |    |                                                                         |    |    |                                                                        |    |    |
| Antimony                                                                                                             | 7440-36-0  | 410                                                            | 820                                                                            | 5.4                                                                                              | 0.23                                                                      | J  | L  | <u>43.1</u>                                                               |    | L  | 0.11                                                                      | J  | L  | 0.077                                                                   | J  | L  | 0.066                                                                  | J  | L  |
| Arsenic                                                                                                              | 7440-38-2  | 1.6                                                            | 27                                                                             | 5.8                                                                                              | 2.9                                                                       |    | L  | <b>44.7</b>                                                               |    | L  | 4.8                                                                       |    | L  | 1.8                                                                     |    | L  | 2                                                                      |    | J  |
| Barium                                                                                                               | 7440-39-3  | 190,000                                                        | 290,000                                                                        | 1,600                                                                                            | 281                                                                       | B  |    | 348                                                                       | B  |    | 99.7                                                                      | B  |    | 785                                                                     | B  |    | 573                                                                    | B  |    |
| Beryllium                                                                                                            | 7440-41-7  | 2,000                                                          | 3,700                                                                          | 63                                                                                               | 1.1                                                                       |    | L  | 0.67                                                                      |    | L  | 2.2                                                                       |    | L  | 1.4                                                                     |    | L  | 1.4                                                                    |    |    |
| Cadmium                                                                                                              | 7440-43-9  | 800                                                            | 1,000                                                                          | 7.5                                                                                              | 0.05                                                                      | J  | L  | 0.4                                                                       |    | L  | 0.017                                                                     | J  | L  | 0.022                                                                   | J  | L  | 0.032                                                                  | J  |    |
| Chromium                                                                                                             | 7440-47-3  | NS                                                             | NS                                                                             | NS                                                                                               | 16.6                                                                      | B  |    | 256                                                                       | B  |    | 19.6                                                                      | B  |    | 17.1                                                                    | B  |    | 16.3                                                                   | B  |    |
| Cobalt                                                                                                               | 7440-48-4  | 300                                                            | 19,000                                                                         | 660                                                                                              | 11                                                                        |    |    | 5.9                                                                       |    |    | 7.9                                                                       |    |    | 10.3                                                                    |    |    | 1.8                                                                    |    |    |
| Copper                                                                                                               | 7440-50-8  | 41,000                                                         | 82,000                                                                         | 1,000                                                                                            | 23.4                                                                      | B  | L  | <u>1,260</u>                                                              | B  | L  | 11.2                                                                      | B  | L  | 17.3                                                                    | B  | L  | 12                                                                     | B  | BJ |
| Lead                                                                                                                 | 7439-92-1  | 800                                                            | 1,000                                                                          | 270                                                                                              | 14.8                                                                      | B  |    | <b>1,510</b>                                                              | B  |    | 14.3                                                                      | B  |    | 13.4                                                                    | B  |    | 14.6                                                                   | B  | L  |
| Mercury                                                                                                              | 7439-97-6  | 34                                                             | 610                                                                            | 2.1                                                                                              | 0.032                                                                     | J  |    | 1.3                                                                       |    |    | 0.029                                                                     | J  |    | 0.052                                                                   | J  |    | 0.036                                                                  | J  |    |
| Nickel                                                                                                               | 7440-02-0  | 20,000                                                         | 41,000                                                                         | 130                                                                                              | 21.6                                                                      | B  | L  | 28                                                                        | B  | L  | 17.8                                                                      | B  | L  | 23.2                                                                    | B  | L  | 7.5                                                                    | B  |    |
| Selenium                                                                                                             | 7782-49-2  | 5,100                                                          | 10,000                                                                         | 5.2                                                                                              | 1.3                                                                       |    |    | 0.48                                                                      | J  |    | 1.1                                                                       |    |    | 1.1                                                                     |    |    | 2.1                                                                    |    |    |
| Silver                                                                                                               | 7440-22-4  | 5,100                                                          | 10,000                                                                         | 31                                                                                               | 0.046                                                                     | J  | L  | 0.16                                                                      |    | L  | 0.039                                                                     | J  | L  | 0.029                                                                   | J  | L  | 0.049                                                                  | J  |    |
| Thallium                                                                                                             | 7440-28-0  | NS                                                             | 160                                                                            | 2.8                                                                                              | 0.17                                                                      |    | L  | 0.59                                                                      |    | L  | 0.17                                                                      |    | L  | 0.17                                                                    |    | L  | 0.19                                                                   | B  |    |
| Tin                                                                                                                  | 7440-31-5  | 610,000                                                        | 1,000,000                                                                      | 110,000                                                                                          | 2.5                                                                       | JB | BL | 8.4                                                                       | B  | BL | 2.3                                                                       | JB | BL | 2.3                                                                     | JB | BL | 0.59                                                                   | JB | BJ |
| Vanadium                                                                                                             | 7440-62-2  | 72                                                             | 2,000                                                                          | 730                                                                                              | 21.3                                                                      |    | L  | 82.6                                                                      |    | L  | 34.9                                                                      |    | L  | 17.1                                                                    |    | L  | 20                                                                     |    | L  |
| Zinc                                                                                                                 | 7440-66-6  | 310,000                                                        | 610,000                                                                        | 14,000                                                                                           | 64.9                                                                      | B  |    | 149                                                                       | B  |    | 57.6                                                                      | B  |    | 70.3                                                                    | B  |    | 19.7                                                                   | B  | J  |

- Notes:
1. NS denotes No Standard for the Chemical
  2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
  3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
  4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Laboratory Data Qualifiers (LQ)

U - Target analyte not detected above listed Reporting Limit

J - Estimated result. Result is less than Reporting Limit

B - Method blank contamination. The associated method blank contains the target analyte

G - Elevated Reporting Limit due to matrix interference

Data Validation Qualifiers (DV)

B - Not detected substantially above the level reported in the laboratory or field blanks

J - Analyte is present. Reported value may not be accurate or precise.

K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.

L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.

Table 20  
AOC 5 Soil Sample Results for Volatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit: |            | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil De<br>Minimis Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water Soil<br>De Minimis Level<br>mg/Kg | AOC5-01<br>AOC5-01-20.0<br>A9G100171007<br>07/09/2009<br>20-20.5<br>mg/Kg |    |    | AOC5-02<br>AOC5-02-20.0<br>A9G100171005<br>07/09/2009<br>20-20.5<br>mg/Kg |    |    | AOC5-03<br>AOC5-03-20.0<br>A9G100171004<br>07/09/2009<br>21-21.5<br>mg/Kg |    |    | AOC5-04<br>AOC5-04-21.0<br>A9G100171003<br>07/09/2009<br>22-22.5<br>mg/Kg |    |    | AOC5-05<br>AOC5-05-22.0<br>A9G100171009<br>07/09/2009<br>20-20.5<br>mg/Kg |    |    | AOC5-06<br>AOC5-06-20.0<br>A9G100171008<br>07/09/2009<br>20-20.5<br>mg/Kg |    |    | AOC5-02<br>AOC5-07-20.0<br>A9G100171006<br>07/09/2009<br>20-20.5<br>mg/Kg |    |    |
|----------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|----|----|
| Chemical Name                                                                                                        | CAS RN     |                                                                |                                                                             |                                                                                               | Result/RL                                                                 | LQ | DV | Result/RL                                                                 | LQ | DV | Result/RL                                                                 | LQ | DV | Result/RL                                                                 | LQ | DV | Result/RL                                                                 | LQ | DV | Result/RL                                                                 | LQ | DV | Result/RL                                                                 | LQ | DV |
| 1,1,1,2-Tetrachloroethane                                                                                            | 630-20-6   | 9.3                                                            | 71                                                                          | 0.0031                                                                                        | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| 1,1,1-Trichloroethane                                                                                                | 71-55-6    | 38,000                                                         | 710                                                                         | 2.1                                                                                           | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| 1,1,2,2-Tetrachloroethane                                                                                            | 79-34-5    | 2.8                                                            | 9                                                                           | 0.0004                                                                                        | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| 1,1,2-Trichloroethane                                                                                                | 79-00-5    | 5.3                                                            | 19                                                                          | 0.035                                                                                         | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| 1,1-Dichloroethane                                                                                                   | 75-34-3    | 17                                                             | 1,600                                                                       | 5.9                                                                                           | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| 1,1-Dichloroethene                                                                                                   | 75-35-4    | 1,100                                                          | 430                                                                         | 0.059                                                                                         | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| 1,2,3-Trichloropropane                                                                                               | 96-18-4    | 0.095                                                          | 11                                                                          | 0.00027                                                                                       | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| 1,2-Dibromo-3-chloropropane                                                                                          | 96-12-8    | 0.069                                                          | 71                                                                          | 0.001                                                                                         | 0.012                                                                     | U  |    | 0.0095                                                                    | U  |    | 0.0096                                                                    | U  |    | 0.009                                                                     | U  |    | 0.0096                                                                    | U  |    | 0.009                                                                     | U  |    | 0.0096                                                                    | U  |    |
| 1,2-Dibromoethane (EDB)                                                                                              | 106-93-4   | 0.17                                                           | 0.62                                                                        | 0.00026                                                                                       | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| 1,2-Dichloroethane                                                                                                   | 107-06-2   | 2.2                                                            | 7.7                                                                         | 0.028                                                                                         | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| 1,2-Dichloropropane                                                                                                  | 78-87-5    | 4.5                                                            | 14                                                                          | 0.03                                                                                          | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| 1,4-Dioxane                                                                                                          | 123-91-1   | 160                                                            | 2,200                                                                       | 0.026                                                                                         | 0.29                                                                      | U  | R  | 0.24                                                                      | U  | R  | 0.24                                                                      | U  | R  | 0.23                                                                      | U  | R  | 0.24                                                                      | U  | R  | 0.22                                                                      | U  | R  | 0.24                                                                      | U  | R  |
| 2-Butanone (MEK)                                                                                                     | 78-93-3    | 190,000                                                        | 56,000                                                                      | 29                                                                                            | 0.0061                                                                    | J  |    | 0.0014                                                                    | J  |    | 0.019                                                                     | U  |    | 0.0011                                                                    | J  |    | 0.0034                                                                    | J  |    | 0.018                                                                     | U  |    | 0.0012                                                                    | J  |    |
| 2-Hexanone                                                                                                           | 591-78-6   | 1,400                                                          | NS                                                                          | NS                                                                                            | 0.024                                                                     | U  |    | 0.019                                                                     | U  |    | 0.019                                                                     | U  |    | 0.018                                                                     | U  |    | 0.019                                                                     | U  |    | 0.018                                                                     | U  |    | 0.019                                                                     | U  |    |
| 4-Methyl-2-pentanone (MIBK)                                                                                          | 108-10-1   | 53,000                                                         | 8,900                                                                       | 59                                                                                            | 0.024                                                                     | U  |    | 0.019                                                                     | U  |    | 0.019                                                                     | U  |    | 0.018                                                                     | U  |    | 0.019                                                                     | U  |    | 0.018                                                                     | U  |    | 0.019                                                                     | U  |    |
| Acetone                                                                                                              | 67-64-1    | 630,000                                                        | 56,000                                                                      | 22                                                                                            | 0.043                                                                     |    |    | 0.014                                                                     | J  | B  | 0.0027                                                                    | J  | B  | 0.0075                                                                    | J  | B  | 0.035                                                                     |    |    | 0.0074                                                                    | J  |    | 0.012                                                                     | J  | B  |
| Acetonitrile                                                                                                         | 75-05-8    | 3,700                                                          | 2,000                                                                       | 0.57                                                                                          | 0.58                                                                      | U  | L  | 0.49                                                                      | U  | J  | 0.5                                                                       | U  |    | 0.46                                                                      | U  |    | 0.53                                                                      | U  |    | 0.44                                                                      | U  |    | 0.5                                                                       | U  |    |
| Acrolein                                                                                                             | 107-02-8   | 0.65                                                           | 0.31                                                                        | 0.0002                                                                                        | 0.12                                                                      | U  |    | 0.095                                                                     | U  |    | 0.096                                                                     | U  |    | 0.09                                                                      | U  |    | 0.096                                                                     | U  |    | 0.09                                                                      | U  |    | 0.096                                                                     | U  |    |
| Acrylonitrile                                                                                                        | 107-13-1   | 1.2                                                            | 5.2                                                                         | 0.00016                                                                                       | 0.12                                                                      | U  |    | 0.095                                                                     | U  |    | 0.096                                                                     | U  |    | 0.09                                                                      | U  |    | 0.096                                                                     | U  |    | 0.09                                                                      | U  |    | 0.096                                                                     | U  |    |
| Allyl chloride                                                                                                       | 107-05-1   | 3.4                                                            | NS                                                                          | NS                                                                                            | 0.058                                                                     | U  | L  | 0.049                                                                     | U  | J  | 0.05                                                                      | U  |    | 0.046                                                                     | U  |    | 0.053                                                                     | U  |    | 0.044                                                                     | U  |    | 0.05                                                                      | U  |    |
| Benzene                                                                                                              | 71-43-2    | 5.4                                                            | 15                                                                          | 0.034                                                                                         | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.00033                                                                   | J  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Bromodichloromethane                                                                                                 | 75-27-4    | 1.4                                                            | 24                                                                          | 0.0015                                                                                        | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Bromoform                                                                                                            | 75-25-2    | 220                                                            | 3,100                                                                       | 0.064                                                                                         | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Bromomethane                                                                                                         | 74-83-9    | 32                                                             | 13                                                                          | 0.042                                                                                         | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Carbon disulfide                                                                                                     | 75-15-0    | 3,700                                                          | 470                                                                         | 8.3                                                                                           | 0.0026                                                                    | J  |    | 0.00089                                                                   | J  |    | 0.0059                                                                    |    |    | 0.0032                                                                    | J  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Carbon tetrachloride                                                                                                 | 56-23-5    | 1.2                                                            | 5.3                                                                         | 0.061                                                                                         | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Chlorobenzene                                                                                                        | 108-90-7   | 1,400                                                          | 310                                                                         | 1.3                                                                                           | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Chloroethane                                                                                                         | 75-00-3    | 61,000                                                         | 65                                                                          | 0.021                                                                                         | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Chloroform                                                                                                           | 67-66-3    | 1.5                                                            | 5.2                                                                         | 0.0011                                                                                        | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Chloromethane                                                                                                        | 74-87-3    | 500                                                            | 160                                                                         | 1.3                                                                                           | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Chloroprene                                                                                                          | 126-99-8   | 36                                                             | 12                                                                          | 0.12                                                                                          | 0.058                                                                     | U  | L  | 0.049                                                                     | U  | J  | 0.05                                                                      | U  |    | 0.046                                                                     | U  |    | 0.053                                                                     | U  |    | 0.044                                                                     | U  |    | 0.05                                                                      | U  |    |
| cis-1,3-Dichloropropene                                                                                              | 10061-01-5 | NS                                                             | NS                                                                          | NS                                                                                            | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Dibromochloromethane                                                                                                 | 124-48-1   | 3.3                                                            | 680                                                                         | 0.018                                                                                         | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Dibromomethane                                                                                                       | 74-95-3    | 110                                                            | 240                                                                         | 0.31                                                                                          | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Dichlorodifluoromethane                                                                                              | 75-71-8    | 780                                                            | 190                                                                         | 5.3                                                                                           | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Ethyl methacrylate                                                                                                   | 97-63-2    | 92,000                                                         | 55                                                                          | 30                                                                                            | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Ethylbenzene                                                                                                         | 100-41-4   | 27                                                             | 110                                                                         | 8.9                                                                                           | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Iodomethane                                                                                                          | 74-88-4    | NS                                                             | NS                                                                          | NS                                                                                            | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0014                                                                    | J  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Isobutyl alcohol                                                                                                     | 78-83-1    | 310,000                                                        | 27,000                                                                      | 12                                                                                            | 1.2                                                                       | U  | R  | 0.98                                                                      | U  | R  | 0.99                                                                      | U  | R  | 0.93                                                                      | U  | R  | 1.1                                                                       | U  | R  | 0.87                                                                      | U  | R  | 1                                                                         | U  | R  |
| Methacrylonitrile                                                                                                    | 126-98-7   | 18                                                             | 8.8                                                                         | 0.0042                                                                                        | 0.058                                                                     | U  | L  | 0.049                                                                     | U  | J  | 0.05                                                                      | U  |    | 0.046                                                                     | U  |    | 0.053                                                                     | U  |    | 0.044                                                                     | U  |    | 0.05                                                                      | U  |    |
| Methyl methacrylate                                                                                                  | 80-62-6    | 21,000                                                         | 3,400                                                                       | 6.5                                                                                           | 0.058                                                                     | U  | L  | 0.049                                                                     | U  | J  | 0.05                                                                      | U  |    | 0.046                                                                     | U  |    | 0.053                                                                     | U  |    | 0.044                                                                     | U  |    | 0.05                                                                      | U  |    |
| Methylene chloride                                                                                                   | 75-09-2    | 53                                                             | 210                                                                         | 0.023                                                                                         | 0.0036                                                                    | J  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0028                                                                    | J  |    | 0.0048                                                                    | U  |    |
| Propionitrile                                                                                                        | 107-12-0   | NS                                                             | NS                                                                          | NS                                                                                            | 0.12                                                                      | U  | L  | 0.098                                                                     | U  | J  | 0.099                                                                     | U  |    | 0.093                                                                     | U  |    | 0.11                                                                      | U  |    | 0.087                                                                     | U  |    | 0.1                                                                       | U  |    |
| Styrene                                                                                                              | 100-42-5   | 36,000                                                         | 630                                                                         | 4.1                                                                                           | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Tetrachloroethene                                                                                                    | 127-18-4   | 2.6                                                            | 19                                                                          | 0.08                                                                                          | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.00066                                                                   | J  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Toluene                                                                                                              | 108-88-3   | 45,000                                                         | 260                                                                         | 10                                                                                            | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.00057                                                                   | J  | B  | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| trans-1,2-Dichloroethene                                                                                             | 156-60-5   | 690                                                            | 180                                                                         | 0.62                                                                                          | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| trans-1,3-Dichloropropene                                                                                            | 10061-02-6 | NS                                                             | NS                                                                          | NS                                                                                            | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| trans-1,4-Dichloro-2-butene                                                                                          | 110-57-6   | 0.035                                                          | NS                                                                          | NS                                                                                            | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Trichloroethene                                                                                                      | 79-01-6    | 14                                                             | 0.92                                                                        | 0.043                                                                                         | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Trichlorofluoromethane                                                                                               | 75-69-4    | 3,400                                                          | 950                                                                         | 22                                                                                            | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Vinyl acetate                                                                                                        | 108-05-4   | 4,100                                                          | 1,400                                                                       | 1.8                                                                                           | 0.012                                                                     | U  |    | 0.0095                                                                    | U  |    | 0.0096                                                                    | U  |    | 0.009                                                                     | U  |    | 0.0096                                                                    | U  |    | 0.009                                                                     | U  |    | 0.0096                                                                    | U  |    |
| Vinyl chloride                                                                                                       | 75-01-4    | 1.7                                                            | 8.8                                                                         | 0.013                                                                                         | 0.0059                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    | 0.0045                                                                    | U  |    | 0.0048                                                                    | U  |    |
| Xylenes (total)                                                                                                      | 1330-20-7  | 2,700                                                          | 100                                                                         | 120                                                                                           | 0.012                                                                     | U  |    | 0.0095                                                                    | U  |    | 0.0096                                                                    | U  |    | 0.009                                                                     | U  |    | 0.0096                                                                    | U  |    | 0.009                                                                     | U  |    | 0.0096                                                                    | U  |    |

Notes:

1. NS denotes No Standard for the Chemical
2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Laboratory Data Qualifiers (LQ)

- U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers (DV)

- B - Not detected substantially above the level reported in the laboratory or field blanks  
J - Analyte is present. Reported value may not be accurate or precise.  
K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.  
L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.  
R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample. Supporting data is necessary to confirm.

Table 21

TABLE 21  
AOC 5 Soil Sample Results for Semi-Volatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit:<br>Chemical Name |           | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC5-01<br>AOC5-01-20.0<br>A9G100171007<br>07/09/2009<br>20-20.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC5-02<br>AOC5-02-20.0<br>A9G100171005<br>07/09/2009<br>20-20.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC5-03<br>AOC5-03-20.0<br>A9G100171004<br>07/09/2009<br>20-20.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC5-04<br>AOC5-04-21.0<br>A9G100171003<br>07/09/2009<br>21-21.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC5-05<br>AOC5-05-22.0<br>A9G100171009<br>07/09/2009<br>22-22.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC5-06<br>AOC5-06-20.0<br>A9G100171008<br>07/09/2009<br>20-20.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC5-07<br>AOC5-07-20.0<br>A9G100171006<br>07/09/2009<br>20-20.5<br>mg/Kg<br>Result/RL LQ DV |   |  |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|---|--|----------------------------------------------------------------------------------------------|---|--|----------------------------------------------------------------------------------------------|---|--|----------------------------------------------------------------------------------------------|---|--|----------------------------------------------------------------------------------------------|---|--|----------------------------------------------------------------------------------------------|---|--|----------------------------------------------------------------------------------------------|---|--|
| 1,2,4,5-Tetrachlorobenzene                                                                                                            | 95-94-3   | 180                                                            | 260                                                                            | 0.66                                                                                             | 0.14                                                                                         | U |  | 0.13                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.13                                                                                         | U |  |
| 1,2,4-Trichlorobenzene                                                                                                                | 120-82-1  | 99                                                             | 20,000                                                                         | 4.9                                                                                              | 0.068                                                                                        | U |  | 0.048                                                                                        | J |  | 0.061                                                                                        | U |  | 0.089                                                                                        |   |  | 0.09                                                                                         |   |  | 0.061                                                                                        | U |  | 0.063                                                                                        | U |  |
| 1,2-Dichlorobenzene                                                                                                                   | 95-50-1   | 9,800                                                          | 150                                                                            | 12                                                                                               | 0.068                                                                                        | U |  | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |  | 0.063                                                                                        | U |  |
| 1,2-Diphenylhydrazine                                                                                                                 | 122-66-7  | 2.2                                                            | 31                                                                             | 0.0026                                                                                           | 0.068                                                                                        | U |  | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |  | 0.063                                                                                        | U |  |
| 1,3,5-Trinitrobenzene                                                                                                                 | 99-35-4   | 27,000                                                         | 26,000                                                                         | 52                                                                                               | 2.2                                                                                          | U |  | 2                                                                                            | U |  | 2                                                                                            | U |  | 2                                                                                            | U |  | 1.9                                                                                          | U |  | 1.9                                                                                          | U |  | 2                                                                                            | U |  |
| 1,3-Dichlorobenzene                                                                                                                   | 541-73-1  | NS                                                             | 130                                                                            | 12                                                                                               | 0.068                                                                                        | U |  | 0.033                                                                                        | J |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |  | 0.063                                                                                        | U |  |
| 1,3-Dinitrobenzene                                                                                                                    | 99-65-0   | 62                                                             | 88                                                                             | 0.037                                                                                            | 0.45                                                                                         | U |  | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |  | 0.42                                                                                         | U |  |
| 1,4-Dichlorobenzene                                                                                                                   | 106-46-7  | 12                                                             | 45                                                                             | 2.2                                                                                              | 0.068                                                                                        | U |  | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |  | 0.063                                                                                        | U |  |
| 1,4-Naphthoquinone                                                                                                                    | 130-15-4  | NS                                                             | NS                                                                             | NS                                                                                               | 0.45                                                                                         | U |  | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |  | 0.42                                                                                         | U |  |
| 1-Naphthylamine                                                                                                                       | 134-32-7  | NS                                                             | NS                                                                             | NS                                                                                               | 0.45                                                                                         | U |  | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |  | 0.42                                                                                         | U |  |
| 2,3,4,6-Tetrachlorophenol                                                                                                             | 58-90-2   | 18,000                                                         | 26,000                                                                         | 92                                                                                               | 0.14                                                                                         | U |  | 0.13                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.13                                                                                         | U |  |
| 2,4,5-Trichlorophenol                                                                                                                 | 95-95-4   | 62,000                                                         | 88,000                                                                         | 250                                                                                              | 0.21                                                                                         | U |  | 0.19                                                                                         | U |  | 0.18                                                                                         | U |  | 0.19                                                                                         | U |  | 0.18                                                                                         | U |  | 0.18                                                                                         | U |  | 0.19                                                                                         | U |  |
| 2,4,6-Trichlorophenol                                                                                                                 | 88-06-2   | 160                                                            | 2,200                                                                          | 0.12                                                                                             | 0.21                                                                                         | U |  | 0.19                                                                                         | U |  | 0.18                                                                                         | U |  | 0.19                                                                                         | U |  | 0.18                                                                                         | U |  | 0.18                                                                                         | U |  | 0.19                                                                                         | U |  |
| 2,4-Dichlorophenol                                                                                                                    | 120-83-2  | 1,800                                                          | 2,600                                                                          | 1.1                                                                                              | 0.21                                                                                         | U |  | 0.19                                                                                         | U |  | 0.18                                                                                         | U |  | 0.19                                                                                         | U |  | 0.18                                                                                         | U |  | 0.18                                                                                         | U |  | 0.19                                                                                         | U |  |
| 2,4-Dimethylphenol                                                                                                                    | 105-67-9  | 12,000                                                         | 18,000                                                                         | 9                                                                                                | 0.21                                                                                         | U |  | 0.19                                                                                         | U |  | 0.18                                                                                         | U |  | 0.19                                                                                         | U |  | 0.18                                                                                         | U |  | 0.18                                                                                         | U |  | 0.19                                                                                         | U |  |
| 2,4-Dinitrophenol                                                                                                                     | 51-28-5   | 1,200                                                          | 1,800                                                                          | 0.29                                                                                             | 0.45                                                                                         | U |  | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |  | 0.42                                                                                         | U |  |
| 2,4-Dinitrotoluene                                                                                                                    | 121-14-2  | 5.5                                                            | 1,800                                                                          | 0.57                                                                                             | 0.27                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.24                                                                                         | U |  | 0.24                                                                                         | U |  | 0.25                                                                                         | U |  |
| 2,6-Dichlorophenol                                                                                                                    | 87-65-0   | NS                                                             | NS                                                                             | NS                                                                                               | 0.27                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.24                                                                                         | U |  | 0.24                                                                                         | U |  | 0.25                                                                                         | U |  |
| 2,6-Dinitrotoluene                                                                                                                    | 606-20-2  | 620                                                            | 890                                                                            | 0.25                                                                                             | 0.27                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.24                                                                                         | U |  | 0.24                                                                                         | U |  | 0.25                                                                                         | U |  |
| 2-Acetylaminofluorene                                                                                                                 | 53-96-3   | 0.45                                                           | NS                                                                             | NS                                                                                               | 0.45                                                                                         | U |  | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |  | 0.42                                                                                         | U |  |
| 2-Chloronaphthalene                                                                                                                   | 91-58-7   | 82,000                                                         | 27,000                                                                         | 32                                                                                               | 0.068                                                                                        | U |  | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |  | 0.063                                                                                        | U |  |
| 2-Chlorophenol                                                                                                                        | 95-57-8   | 5,100                                                          | 240                                                                            | 0.61                                                                                             | 0.068                                                                                        | U |  | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |  | 0.063                                                                                        | U |  |
| 2-Methylnaphthalene                                                                                                                   | 91-57-6   | 4,100                                                          | NS                                                                             | NS                                                                                               | 0.0091                                                                                       | U |  | 0.0085                                                                                       | U |  | 0.0082                                                                                       | U |  | 0.0083                                                                                       | U |  | 0.008                                                                                        | U |  | 0.0081                                                                                       | U |  | 0.0084                                                                                       | U |  |
| 2-Methylphenol                                                                                                                        | 95-48-7   | 31,000                                                         | 44,000                                                                         | 14                                                                                               | 0.27                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.24                                                                                         | U |  | 0.24                                                                                         | U |  | 0.25                                                                                         | U |  |
| 2-Naphthylamine                                                                                                                       | 91-59-8   | 0.96                                                           | NS                                                                             | NS                                                                                               | 0.27                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.24                                                                                         | U |  | 0.24                                                                                         | U |  | 0.25                                                                                         | U |  |
| 2-Nitroaniline                                                                                                                        | 88-74-4   | 6,000                                                          | 2,600                                                                          | 0.56                                                                                             | 0.27                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.24                                                                                         | U |  | 0.24                                                                                         | U |  | 0.25                                                                                         | U |  |
| 2-Nitrophenol                                                                                                                         | 88-75-5   | NS                                                             | NS                                                                             | NS                                                                                               | 0.068                                                                                        | U |  | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |  | 0.063                                                                                        | U |  |
| 2-Picoline                                                                                                                            | 109-06-8  | NS                                                             | NS                                                                             | NS                                                                                               | 0.45                                                                                         | U |  | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |  | 0.42                                                                                         | U |  |
| 2-sec-Butyl-4,6-dinitrophenol                                                                                                         | 88-85-7   | 620                                                            | 880                                                                            | 0.033                                                                                            | 0.45                                                                                         | U |  | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |  | 0.42                                                                                         | U |  |
| 3,3'-Dichlorobenzidine                                                                                                                | 91-94-1   | 3.8                                                            | 55                                                                             | 0.0049                                                                                           | 0.14                                                                                         | U |  | 0.13                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.13                                                                                         | U |  |
| 3,3'-Dimethoxybenzidine                                                                                                               | 119-90-4  | 120                                                            | 1,800                                                                          | 0.3                                                                                              | 0.45                                                                                         | U |  | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |  | 0.42                                                                                         | U |  |
| 3,3'-Dimethylbenzidine                                                                                                                | 119-93-7  | 0.16                                                           | 11                                                                             | 0.0089                                                                                           | 0.45                                                                                         | U |  | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |  | 0.42                                                                                         | U |  |
| 3-Methylcholanthrene                                                                                                                  | 56-49-5   | 0.078                                                          | NS                                                                             | NS                                                                                               | 0.27                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.24                                                                                         | U |  | 0.24                                                                                         | U |  | 0.25                                                                                         | U |  |
| 3-Methylphenol                                                                                                                        | 108-39-4  | 31,000                                                         | 44,000                                                                         | 39                                                                                               | 0.27                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.24                                                                                         | U |  | 0.24                                                                                         | U |  | 0.25                                                                                         | U |  |
| 3-Nitroaniline                                                                                                                        | 99-09-2   | NS                                                             | NS                                                                             | NS                                                                                               | 0.27                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.24                                                                                         | U |  | 0.24                                                                                         | U |  | 0.25                                                                                         | U |  |
| 4,6-Dinitro-2-methylphenol                                                                                                            | 534-52-1  | 62                                                             | NS                                                                             | NS                                                                                               | 0.21                                                                                         | U |  | 0.19                                                                                         | U |  | 0.18                                                                                         | U |  | 0.19                                                                                         | U |  | 0.18                                                                                         | U |  | 0.18                                                                                         | U |  | 0.19                                                                                         | U |  |
| 4-Aminobiphenyl                                                                                                                       | 92-67-1   | 0.082                                                          | NS                                                                             | NS                                                                                               | 0.45                                                                                         | U |  | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |  | 0.42                                                                                         | U |  |
| 4-Bromophenyl phenyl ether                                                                                                            | 101-55-3  | NS                                                             | NS                                                                             | NS                                                                                               | 0.068                                                                                        | U |  | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |  | 0.063                                                                                        | U |  |
| 4-Chloro-3-methylphenol                                                                                                               | 59-50-7   | 62,000                                                         | NS                                                                             | NS                                                                                               | 0.21                                                                                         | U |  | 0.19                                                                                         | U |  | 0.18                                                                                         | U |  | 0.19                                                                                         | U |  | 0.18                                                                                         | U |  | 0.18                                                                                         | U |  | 0.19                                                                                         | U |  |
| 4-Chloroaniline                                                                                                                       | 106-47-8  | 8.6                                                            | 3500                                                                           | 0.97                                                                                             | 0.21                                                                                         | U |  | 0.19                                                                                         | U |  | 0.18                                                                                         | U |  | 0.19                                                                                         | U |  | 0.18                                                                                         | U |  | 0.18                                                                                         | U |  | 0.19                                                                                         | U |  |
| 4-Chlorophenyl phenyl ether                                                                                                           | 7005-72-3 | NS                                                             | NS                                                                             | NS                                                                                               | 0.068                                                                                        | U |  | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |  | 0.063                                                                                        | U |  |
| 4-Methylphenol                                                                                                                        | 106-44-5  | 3100                                                           | 4400                                                                           | 3.9                                                                                              | 0.27                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.24                                                                                         | U |  | 0.24                                                                                         | U |  | 0.25                                                                                         | U |  |
| 4-Nitroaniline                                                                                                                        | 100-01-6  | 86                                                             | NS                                                                             | NS                                                                                               | 0.27                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.25                                                                                         | U |  | 0.24                                                                                         | U |  | 0.24                                                                                         | U |  | 0.25                                                                                         | U |  |
| 4-Nitrophenol                                                                                                                         | 100-02-7  | NS                                                             | 7000                                                                           | 1.7                                                                                              | 0.45                                                                                         | U |  | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |  | 0.42                                                                                         | U |  |
| 4-Nitroquinoline-1-oxide                                                                                                              | 56-57-5   | NS                                                             | NS                                                                             | NS                                                                                               | 0.45                                                                                         | U |  | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |  | 0.42                                                                                         | U |  |

Notes:

1. NS denotes No Standard for the Chemical
2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Laboratory Data Qualifiers (LQ)

- U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers (DV)

- B - Not detected substantially above the level reported in the laboratory or field blanks  
K - Analyte is present. Reported value may not be accurate or precise.  
K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.  
L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.  
R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample. Supporting data is necessary to confirm.

Table 21

TABLE 21  
AOC 5 Soil Sample Results for Semi-Volatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth :<br>Concentration Unit:<br>Chemical Name |           | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC5-01<br>AOC5-01-20.0<br>A9G100171007<br>07/09/2009<br>20-20.5<br>mg/Kg<br>Result/RL LQ DV |   |   | AOC5-02<br>AOC5-02-20.0<br>A9G100171005<br>07/09/2009<br>20-20.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC5-03<br>AOC5-03-20.0<br>A9G100171004<br>07/09/2009<br>20-20.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC5-04<br>AOC5-04-21.0<br>A9G100171003<br>07/09/2009<br>21-21.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC5-05<br>AOC5-05-22.0<br>A9G100171009<br>07/09/2009<br>22-22.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC5-06<br>AOC5-06-20.0<br>A9G100171008<br>07/09/2009<br>20-20.5<br>mg/Kg<br>Result/RL LQ DV |   |   | AOC5-07<br>AOC5-07-20.0<br>A9G100171006<br>07/09/2009<br>20-20.5<br>mg/Kg<br>Result/RL LQ DV |   |   |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|---|---|----------------------------------------------------------------------------------------------|---|--|----------------------------------------------------------------------------------------------|---|--|----------------------------------------------------------------------------------------------|---|--|----------------------------------------------------------------------------------------------|---|--|----------------------------------------------------------------------------------------------|---|---|----------------------------------------------------------------------------------------------|---|---|
| 5-Nitro-o-toluidine                                                                                                                    | 99-55-8   | 52                                                             | 750                                                                            | 0.015                                                                                            | 0.45                                                                                         | U |   | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |   | 0.42                                                                                         | U |   |
| 7,12-Dimethylbenz(a)anthracene                                                                                                         | 57-97-6   | 0.0062                                                         | NS                                                                             | NS                                                                                               | 0.45                                                                                         | U |   | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |   | 0.42                                                                                         | U |   |
| a,a-Dimethylphenethylamine                                                                                                             | 122-09-8  | NS                                                             | NS                                                                             | NS                                                                                               | 0.9                                                                                          | U |   | 0.84                                                                                         | U |  | 0.81                                                                                         | U |  | 0.82                                                                                         | U |  | 0.79                                                                                         | U |  | 0.8                                                                                          | U |   | 0.84                                                                                         | U |   |
| Acenaphthene                                                                                                                           | 83-32-9   | 33,000                                                         | 38,000                                                                         | 73                                                                                               | 0.0091                                                                                       | U |   | 0.0085                                                                                       | U |  | 0.0082                                                                                       | U |  | 0.0083                                                                                       | U |  | 0.008                                                                                        | U |  | 0.0081                                                                                       | U |   | 0.0084                                                                                       | U |   |
| Acenaphthylene                                                                                                                         | 208-96-8  | NS                                                             | 44,000                                                                         | 91                                                                                               | 0.0091                                                                                       | U |   | 0.0085                                                                                       | U |  | 0.0082                                                                                       | U |  | 0.0083                                                                                       | U |  | 0.008                                                                                        | U |  | 0.0081                                                                                       | U |   | 0.0084                                                                                       | U |   |
| Acetophenone                                                                                                                           | 98-86-2   | 100,000                                                        | 25,000                                                                         | 3.2                                                                                              | 0.14                                                                                         | U |   | 0.13                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |   | 0.13                                                                                         | U |   |
| Aniline                                                                                                                                | 62-53-3   | 300                                                            | 4,300                                                                          | 0.14                                                                                             | 0.45                                                                                         | U |   | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.079                                                                                        | J |  | 0.023                                                                                        | J |  | 0.4                                                                                          | U |   | 0.42                                                                                         | U |   |
| Anthracene                                                                                                                             | 120-12-7  | 170,000                                                        | 390,000                                                                        | 1700                                                                                             | 0.0091                                                                                       | U |   | 0.0085                                                                                       | U |  | 0.0082                                                                                       | U |  | 0.0083                                                                                       | U |  | 0.008                                                                                        | U |  | 0.0081                                                                                       | U |   | 0.0084                                                                                       | U |   |
| Aramite                                                                                                                                | 140-57-8  | 69                                                             | NS                                                                             | NS                                                                                               | 0.45                                                                                         | U |   | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |   | 0.42                                                                                         | U |   |
| Benzidine                                                                                                                              | 92-87-5   | 0.0075                                                         | 0.11                                                                           | 0.000033                                                                                         | 0.45                                                                                         | U |   | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |   | 0.42                                                                                         | U |   |
| Benzo(a)anthracene                                                                                                                     | 56-55-3   | 2.1                                                            | 29                                                                             | 1.5                                                                                              | 0.0091                                                                                       | U |   | 0.0085                                                                                       | U |  | 0.0082                                                                                       | U |  | 0.02                                                                                         |   |  | 0.008                                                                                        | U |  | 0.0081                                                                                       | U |   | 0.0084                                                                                       | U |   |
| Benzo(a)pyrene                                                                                                                         | 50-32-8   | 0.21                                                           | 2.9                                                                            | 8.2                                                                                              | 0.0091                                                                                       | U |   | 0.0085                                                                                       | U |  | 0.0082                                                                                       | U |  | 0.02                                                                                         |   |  | 0.008                                                                                        | U |  | 0.0081                                                                                       | U |   | 0.0084                                                                                       | U |   |
| Benzo(b)fluoranthene                                                                                                                   | 205-99-2  | 2.1                                                            | 29                                                                             | 4.5                                                                                              | 0.0091                                                                                       | U |   | 0.0085                                                                                       | U |  | 0.0082                                                                                       | U |  | 0.036                                                                                        |   |  | 0.008                                                                                        | U |  | 0.0081                                                                                       | U |   | 0.0084                                                                                       | U |   |
| Benzo(ghi)perylene                                                                                                                     | 191-24-2  | NS                                                             | 23,000                                                                         | 120,000                                                                                          | 0.0091                                                                                       | U |   | 0.0085                                                                                       | U |  | 0.0082                                                                                       | U |  | 0.021                                                                                        |   |  | 0.008                                                                                        | U |  | 0.0081                                                                                       | U |   | 0.0084                                                                                       | U |   |
| Benzo(k)fluoranthene                                                                                                                   | 207-08-9  | 21                                                             | 290                                                                            | 45                                                                                               | 0.0091                                                                                       | U |   | 0.0085                                                                                       | U |  | 0.0082                                                                                       | U |  | 0.0083                                                                                       | U |  | 0.008                                                                                        | U |  | 0.0081                                                                                       | U |   | 0.0084                                                                                       | U |   |
| Benzyl alcohol                                                                                                                         | 100-51-6  | 62,000                                                         | 440,000                                                                        | 150                                                                                              | 0.45                                                                                         | U |   | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |   | 0.42                                                                                         | U |   |
| bis(2-Chloro-1-methylethyl) ether                                                                                                      | 108-60-1  | 22                                                             | 81                                                                             | 0.0018                                                                                           | 0.14                                                                                         | U |   | 0.13                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |   | 0.13                                                                                         | U |   |
| bis(2-Chloroethoxy)methane                                                                                                             | 111-91-1  | 1,800                                                          | NS                                                                             | NS                                                                                               | 0.14                                                                                         | U |   | 0.13                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |   | 0.13                                                                                         | U |   |
| bis(2-Chloroethyl) ether                                                                                                               | 111-44-4  | 1.0                                                            | 6                                                                              | 0.56                                                                                             | 0.14                                                                                         | U |   | 0.13                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |   | 0.13                                                                                         | U |   |
| bis(2-Ethylhexyl) phthalate                                                                                                            | 117-81-7  | 120                                                            | 1,800                                                                          | 3,600                                                                                            | 0.035                                                                                        | J | B | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.74                                                                                         |   |  | 0.046                                                                                        | J | B | 0.026                                                                                        | J | B |
| Butyl benzyl phthalate                                                                                                                 | 85-68-7   | 910                                                            | 180,000                                                                        | 17,000                                                                                           | 0.068                                                                                        | U |   | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |   | 0.063                                                                                        | U |   |
| Chlorobenzilate                                                                                                                        | 510-15-6  | 16                                                             | 91                                                                             | 0.027                                                                                            | 0.45                                                                                         | U |   | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |   | 0.42                                                                                         | U |   |
| Chrysene                                                                                                                               | 218-01-9  | 210                                                            | 2900                                                                           | 150                                                                                              | 0.012                                                                                        |   |   | 0.0085                                                                                       | U |  | 0.0082                                                                                       | U |  | 0.022                                                                                        |   |  | 0.008                                                                                        | U |  | 0.0081                                                                                       | U |   | 0.0084                                                                                       | U |   |
| Diallate                                                                                                                               | 2303-16-4 | 28                                                             | NS                                                                             | NS                                                                                               | 0.45                                                                                         | U |   | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |   | 0.42                                                                                         | U |   |
| Dibenz(a,h)anthracene                                                                                                                  | 53-70-3   | 0.21                                                           | 2.9                                                                            | 1.4                                                                                              | 0.0091                                                                                       | U |   | 0.0085                                                                                       | U |  | 0.0082                                                                                       | U |  | 0.0083                                                                                       | U |  | 0.008                                                                                        | U |  | 0.0081                                                                                       | U |   | 0.0084                                                                                       | U |   |
| Dibenzofuran                                                                                                                           | 132-64-9  | 1,000                                                          | 2,000                                                                          | 11                                                                                               | 0.068                                                                                        | U |   | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |   | 0.063                                                                                        | U |   |
| Diethyl phthalate                                                                                                                      | 84-66-2   | 490,000                                                        | 700,000                                                                        | 450                                                                                              | 0.068                                                                                        | U |   | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |   | 0.063                                                                                        | U |   |
| Dimethoate                                                                                                                             | 60-51-5   | 120                                                            | NS                                                                             | NS                                                                                               | 0.45                                                                                         | U |   | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |   | 0.42                                                                                         | U |   |
| Dimethyl phthalate                                                                                                                     | 131-11-3  | NS                                                             | 1,000,000                                                                      | 2,000                                                                                            | 0.068                                                                                        | U |   | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |   | 0.063                                                                                        | U |   |
| Di-n-butyl phthalate                                                                                                                   | 84-74-2   | 62,000                                                         | 88,000                                                                         | 5,000                                                                                            | 0.068                                                                                        | U |   | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |   | 0.063                                                                                        | U |   |
| Di-n-octyl phthalate                                                                                                                   | 117-84-0  | NS                                                             | NS                                                                             | NS                                                                                               | 0.068                                                                                        | U |   | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |   | 0.063                                                                                        | U |   |
| Diphenylamine                                                                                                                          | 122-39-4  | 15,000                                                         | 22,000                                                                         | 25                                                                                               | 0.14                                                                                         | U |   | 0.13                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |  | 0.12                                                                                         | U |   | 0.13                                                                                         | U |   |
| Disulfoton                                                                                                                             | 298-04-4  | 25                                                             | 35                                                                             | 0.064                                                                                            | 0.45                                                                                         | U |   | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |   | 0.42                                                                                         | U |   |
| Ethyl methanesulfonate                                                                                                                 | 62-50-0   | NS                                                             | NS                                                                             | NS                                                                                               | 0.45                                                                                         | U |   | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |   | 0.42                                                                                         | U |   |
| Famphur                                                                                                                                | 52-85-7   | NS                                                             | NS                                                                             | NS                                                                                               | 4.5                                                                                          | U |   | 4.2                                                                                          | U |  | 4                                                                                            | U |  | 4.1                                                                                          | U |  | 4                                                                                            | U |  | 4                                                                                            | U |   | 4.2                                                                                          | U |   |
| Fluoranthene                                                                                                                           | 206-44-0  | 22,000                                                         | 30,000                                                                         | 6,300                                                                                            | 0.0091                                                                                       | U |   | 0.0085                                                                                       | U |  | 0.0082                                                                                       | U |  | 0.028                                                                                        |   |  | 0.008                                                                                        | U |  | 0.0081                                                                                       | U |   | 0.0084                                                                                       | U |   |
| Fluorene                                                                                                                               | 86-73-7   | 22,000                                                         | 33,000                                                                         | 78                                                                                               | 0.0091                                                                                       | U |   | 0.0085                                                                                       | U |  | 0.0082                                                                                       | U |  | 0.0083                                                                                       | U |  | 0.008                                                                                        | U |  | 0.0081                                                                                       | U |   | 0.0084                                                                                       | U |   |
| Hexachlorobenzene                                                                                                                      | 118-74-1  | 1.1                                                            | 15                                                                             | 2.2                                                                                              | 0.0091                                                                                       | U |   | 0.0085                                                                                       | U |  | 0.0082                                                                                       | U |  | 0.0083                                                                                       | U |  | 0.008                                                                                        | U |  | 0.0081                                                                                       | U |   | 0.0084                                                                                       | U |   |
| Hexachlorobutadiene                                                                                                                    | 87-68-3   | 22                                                             | 320                                                                            | 1.9                                                                                              | 0.068                                                                                        | U |   | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |   | 0.063                                                                                        | U |   |
| Hexachlorocyclopentadiene                                                                                                              | 77-47-4   | 3,700                                                          | 5,200                                                                          | 400                                                                                              | 0.45                                                                                         | U |   | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |   | 0.42                                                                                         | U |   |
| Hexachloroethane                                                                                                                       | 67-72-1   | 120                                                            | 880                                                                            | 0.36                                                                                             | 0.068                                                                                        | U |   | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |   | 0.063                                                                                        | U |   |
| Hexachloropropene                                                                                                                      | 1888-71-7 | NS                                                             | NS                                                                             | NS                                                                                               | 0.45                                                                                         | U |   | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |   | 0.42                                                                                         | U |   |
| Indeno(1,2,3-cd)pyrene                                                                                                                 | 193-39-5  | 2.1                                                            | 29                                                                             | 13                                                                                               | 0.0091                                                                                       | U |   | 0.0085                                                                                       | U |  | 0.0082                                                                                       | U |  | 0.013                                                                                        |   |  | 0.008                                                                                        | U |  | 0.0081                                                                                       | U |   | 0.0084                                                                                       | U |   |
| Isodrin                                                                                                                                | 465-73-6  | NS                                                             | NS                                                                             | NS                                                                                               | 0.45                                                                                         | U |   | 0.42                                                                                         | U |  | 0.4                                                                                          | U |  | 0.41                                                                                         | U |  | 0.4                                                                                          | U |  | 0.4                                                                                          | U |   | 0.42                                                                                         | U |   |
| Isophorone                                                                                                                             | 78-59-1   | 1,800                                                          | 26,000                                                                         | 0.42                                                                                             | 0.068                                                                                        | U |   | 0.063                                                                                        | U |  | 0.061                                                                                        | U |  | 0.062                                                                                        | U |  | 0.06                                                                                         | U |  | 0.061                                                                                        | U |   | 0.063                                                                                        | U |   |

Notes:

1. NS denotes No Standard for the Chemical
2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Laboratory Data Qualifiers (LQ)

- U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers (DV)

- B - Not detected substantially above the level reported in the laboratory or field blanks  
K - Analyte is present. Reported value may not be accurate or precise.  
J - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.  
L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.  
R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample. Supporting data is necessary to confirm.

TABLE 21  
AOC 5 Soil Sample Results for Semi-Volatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit: |            | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC5-01<br>AOC5-01-20.0<br>A9G100171007<br>07/09/2009<br>20-20.5<br>mg/Kg |    |    | AOC5-02<br>AOC5-02-20.0<br>A9G100171005<br>07/09/2009<br>20-20.5<br>mg/Kg |    |    | AOC5-03<br>AOC5-03-20.0<br>A9G100171004<br>07/09/2009<br>20-20.5<br>mg/Kg |    |    | AOC5-04<br>AOC5-04-21.0<br>A9G100171003<br>07/09/2009<br>21-21.5<br>mg/Kg |    |    | AOC5-05<br>AOC5-05-22.0<br>A9G100171009<br>07/09/2009<br>22-22.5<br>mg/Kg |    |    | AOC5-06<br>AOC5-06-20.0<br>A9G100171008<br>07/09/2009<br>20-20.5<br>mg/Kg |    |    | AOC5-07<br>AOC5-07-20.0<br>A9G100171006<br>07/09/2009<br>20-20.5<br>mg/Kg |    |    |
|----------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|----|----|---------------------------------------------------------------------------|----|----|
| Chemical Name                                                                                                        | CAS RN     |                                                                |                                                                                |                                                                                                  | Result/RL                                                                 | LQ | DV | Result/RL                                                                 | LQ | DV | Result/RL                                                                 | LQ | DV | Result/RL                                                                 | LQ | DV | Result/RL                                                                 | LQ | DV | Result/RL                                                                 | LQ | DV | Result/RL                                                                 | LQ | DV |
| Isosafrole                                                                                                           | 120-58-1   | NS                                                             | NS                                                                             | NS                                                                                               | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| Methapyrilene                                                                                                        | 91-80-5    | NS                                                             | NS                                                                             | NS                                                                                               | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| Methyl methanesulfonate                                                                                              | 66-27-3    | 17                                                             | NS                                                                             | NS                                                                                               | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| Methyl parathion                                                                                                     | 298-00-0   | 150                                                            | 220                                                                            | 0.085                                                                                            | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| Naphthalene                                                                                                          | 91-20-3    | 18                                                             | 190                                                                            | 0.32                                                                                             | 0.0091                                                                    | U  |    | 0.0085                                                                    | U  |    | 0.0082                                                                    | U  |    | 0.0083                                                                    |    |    | 0.008                                                                     | U  |    | 0.0081                                                                    | U  |    | 0.0084                                                                    | U  |    |
| Nitrobenzene                                                                                                         | 98-95-3    | 24                                                             | 110                                                                            | 0.022                                                                                            | 0.14                                                                      | U  |    | 0.13                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.13                                                                      | U  |    |
| N-Nitrosodiethylamine                                                                                                | 55-18-5    | 0.011                                                          | 0.16                                                                           | 0.000023                                                                                         | 0.14                                                                      | U  |    | 0.13                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.13                                                                      | U  |    |
| N-Nitrosodimethylamine                                                                                               | 62-75-9    | 0.034                                                          | 0.48                                                                           | 0.000057                                                                                         | 0.14                                                                      | U  |    | 0.13                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.13                                                                      | U  |    |
| N-Nitrosodi-n-butylamine                                                                                             | 924-16-3   | 0.40                                                           | 0.62                                                                           | 0.000029                                                                                         | 0.14                                                                      | U  |    | 0.13                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.13                                                                      | U  |    |
| N-Nitrosodi-n-propylamine                                                                                            | 621-64-7   | 0.25                                                           | 3.5                                                                            | 0.000048                                                                                         | 0.068                                                                     | U  |    | 0.063                                                                     | U  |    | 0.061                                                                     | U  |    | 0.062                                                                     | U  |    | 0.06                                                                      | U  |    | 0.061                                                                     | U  |    | 0.063                                                                     | U  |    |
| N-Nitrosodiphenylamine                                                                                               | 86-30-6    | 350                                                            | 5,000                                                                          | 0.76                                                                                             | 0.068                                                                     | U  |    | 0.063                                                                     | U  |    | 0.061                                                                     | U  |    | 0.062                                                                     | U  |    | 0.06                                                                      | U  |    | 0.061                                                                     | U  |    | 0.063                                                                     | U  |    |
| N-Nitrosomethylethylamine                                                                                            | 10595-95-6 | 0.078                                                          | 1.1                                                                            | 0.000021                                                                                         | 0.14                                                                      | U  |    | 0.13                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.13                                                                      | U  |    |
| N-Nitrosomorpholine                                                                                                  | 59-89-2    | 0.26                                                           | NS                                                                             | NS                                                                                               | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| N-Nitrosopiperidine                                                                                                  | 100-75-4   | 0.18                                                           | NS                                                                             | NS                                                                                               | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| N-Nitrosopyrrolidine                                                                                                 | 930-55-2   | 0.82                                                           | 12                                                                             | 0.00033                                                                                          | 0.068                                                                     | U  |    | 0.063                                                                     | U  |    | 0.061                                                                     | U  |    | 0.062                                                                     | U  |    | 0.06                                                                      | U  |    | 0.061                                                                     | U  |    | 0.063                                                                     | U  |    |
| O,O,O-Triethyl phosphorothioate                                                                                      | 126-68-1   | NS                                                             | NS                                                                             | NS                                                                                               | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| o-Toluidine                                                                                                          | 95-53-4    | 9.6                                                            | 100                                                                            | 0.0057                                                                                           | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| Parathion                                                                                                            | 56-38-2    | 3,700                                                          | 5,300                                                                          | 10                                                                                               | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| p-Dimethylaminoazobenzene                                                                                            | 60-11-7    | 0.37                                                           | NS                                                                             | NS                                                                                               | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| Pentachlorobenzene                                                                                                   | 608-93-5   | 490                                                            | 700                                                                            | 20                                                                                               | 0.14                                                                      | U  |    | 0.13                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.13                                                                      | U  |    |
| Pentachloroethane                                                                                                    | 76-01-7    | 19                                                             | NS                                                                             | NS                                                                                               | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| Pentachloronitrobenzene                                                                                              | 82-68-8    | 6.6                                                            | 95                                                                             | 0.083                                                                                            | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| Pentachlorophenol                                                                                                    | 87-86-5    | 9                                                              | 110                                                                            | 0.028                                                                                            | 0.21                                                                      | U  |    | 0.19                                                                      | U  |    | 0.18                                                                      | U  |    | 0.19                                                                      | U  |    | 0.18                                                                      | U  |    | 0.18                                                                      | U  |    | 0.19                                                                      | U  |    |
| Phenacetin                                                                                                           | 62-44-2    | 780                                                            | NS                                                                             | NS                                                                                               | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| Phenanthrene                                                                                                         | 85-01-8    | NS                                                             | 410,000                                                                        | 1,500                                                                                            | 0.028                                                                     |    |    | 0.0085                                                                    | U  |    | 0.0098                                                                    |    |    | 0.02                                                                      |    |    | 0.008                                                                     | U  |    | 0.0081                                                                    | U  |    | 0.0084                                                                    | U  |    |
| Phenol                                                                                                               | 108-95-2   | 180,000                                                        | 260,000                                                                        | 56                                                                                               | 0.068                                                                     | U  |    | 0.063                                                                     | U  |    | 0.061                                                                     | U  |    | 0.062                                                                     | U  |    | 0.06                                                                      | U  |    | 0.061                                                                     | U  |    | 0.063                                                                     | U  |    |
| Phorate                                                                                                              | 298-02-2   | 120                                                            | NS                                                                             | NS                                                                                               | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| p-Phenylene diamine                                                                                                  | 106-50-3   | 120,000                                                        | 170,000                                                                        | 48                                                                                               | 0.9                                                                       | U  |    | 0.84                                                                      | U  |    | 0.81                                                                      | U  |    | 0.82                                                                      | U  |    | 0.79                                                                      | U  |    | 0.8                                                                       | U  |    | 0.84                                                                      | U  |    |
| Pronamide                                                                                                            | 23950-58-5 | 46,000                                                         | NS                                                                             | NS                                                                                               | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| Pyrene                                                                                                               | 129-00-0   | 17,000                                                         | 54,000                                                                         | 500                                                                                              | 0.0091                                                                    | U  |    | 0.0085                                                                    | U  |    | 0.0082                                                                    | U  |    | 0.026                                                                     |    |    | 0.008                                                                     | U  |    | 0.0081                                                                    | U  |    | 0.0084                                                                    | U  |    |
| Pyridine                                                                                                             | 110-86-1   | 1,000                                                          | 880                                                                            | 0.19                                                                                             | 0.14                                                                      | U  |    | 0.13                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.12                                                                      | U  |    | 0.13                                                                      | U  |    |
| Safrole                                                                                                              | 94-59-7    | 7.8                                                            | NS                                                                             | NS                                                                                               | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| Tetraethylthiopyrophosphate                                                                                          | 3689-24-5  | 310                                                            | NS                                                                             | NS                                                                                               | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |
| Thionazin                                                                                                            | 297-97-2   | NS                                                             | NS                                                                             | NS                                                                                               | 0.45                                                                      | U  |    | 0.42                                                                      | U  |    | 0.4                                                                       | U  |    | 0.41                                                                      | U  |    | 0.4                                                                       | U  |    | 0.4                                                                       | U  |    | 0.42                                                                      | U  |    |

Notes:

1. NS denotes No Standard for the Chemical
2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Laboratory Data Qualifiers (LQ)

- U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers (DV)

- B - Not detected substantially above the level reported in the laboratory or field blanks  
J - Analyte is present. Reported value may not be accurate or precise.  
K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.  
L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.  
R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample. Supporting data is necessary to confirm.



Table 22  
AOC 5 Soil Sample Results for PCBs and Metals  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit:<br>Chemical Name | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC5-01<br>AOC5-01-20.0<br>A9G100171007<br>07/09/2009<br>20-20.5<br>mg/Kg<br>Result/RL LQ DV | AOC5-02<br>AOC5-02-20.0<br>A9G100171005<br>07/09/2009<br>20-20.5<br>mg/Kg<br>Result/RL LQ DV | AOC5-03<br>AOC5-03-20.0<br>A9G100171004<br>07/09/2009<br>20-20.5<br>mg/Kg<br>Result/RL LQ DV | AOC5-04<br>AOC5-04-21.0<br>A9G100171003<br>07/09/2009<br>21-21.5<br>mg/Kg<br>Result/RL LQ DV | AOC5-05<br>AOC5-05-22.0<br>A9G100171009<br>07/09/2009<br>22-22.5<br>mg/Kg<br>Result/RL LQ DV | AOC5-06<br>AOC5-06-20.0<br>A9G100171008<br>07/09/2009<br>20-20.5<br>mg/Kg<br>Result/RL LQ DV | AOC5-02<br>AOC5-07-20.0<br>A9G100171006<br>07/09/2009<br>20-20.5<br>mg/Kg<br>Result/RL LQ DV |
|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Polychlorinated Biphenyls                                                                                                             |                                                                                                  |                                                                                              |                                                                                              |                                                                                              |                                                                                              |                                                                                              |                                                                                              |                                                                                              |
| Total PCBs                                                                                                                            | 0.9                                                                                              | 0.045 U                                                                                      | 0.042 U                                                                                      | 0.038                                                                                        | 0.041 U                                                                                      | 0.065                                                                                        | 0.04 U                                                                                       | 0.16                                                                                         |
| Aroclor 1016                                                                                                                          | 1.3                                                                                              | 0.045 U                                                                                      | 0.042 U                                                                                      | 0.04 U                                                                                       | 0.041 U                                                                                      | 0.04 U                                                                                       | 0.04 U                                                                                       | 0.042 U                                                                                      |
| Aroclor 1221                                                                                                                          | 0.0023                                                                                           | 0.045 U                                                                                      | 0.042 U                                                                                      | 0.04 U                                                                                       | 0.041 U                                                                                      | 0.04 U                                                                                       | 0.04 U                                                                                       | 0.042 U                                                                                      |
| Aroclor 1232                                                                                                                          | 0.0023                                                                                           | 0.045 U                                                                                      | 0.042 U                                                                                      | 0.04 U                                                                                       | 0.041 U                                                                                      | 0.04 U                                                                                       | 0.04 U                                                                                       | 0.042 U                                                                                      |
| Aroclor 1242                                                                                                                          | 0.045                                                                                            | 0.045 U                                                                                      | 0.042 U                                                                                      | 0.04 U                                                                                       | 0.041 U                                                                                      | 0.04 U                                                                                       | 0.04 U                                                                                       | 0.042 U                                                                                      |
| Aroclor 1248                                                                                                                          | 0.059                                                                                            | 0.045 U                                                                                      | 0.042 U                                                                                      | 0.038 J                                                                                      | 0.041 U                                                                                      | 0.065                                                                                        | 0.04 U                                                                                       | 0.16                                                                                         |
| Aroclor 1254                                                                                                                          | 0.27                                                                                             | 0.045 U                                                                                      | 0.042 U                                                                                      | 0.04 U                                                                                       | 0.041 U                                                                                      | 0.04 U                                                                                       | 0.04 U                                                                                       | 0.042 U                                                                                      |
| Aroclor 1260                                                                                                                          | 0.39                                                                                             | 0.045 U                                                                                      | 0.042 U                                                                                      | 0.04 U                                                                                       | 0.041 U                                                                                      | 0.04 U                                                                                       | 0.04 U                                                                                       | 0.042 U                                                                                      |
| Metals                                                                                                                                |                                                                                                  |                                                                                              |                                                                                              |                                                                                              |                                                                                              |                                                                                              |                                                                                              |                                                                                              |
| Antimony                                                                                                                              | 5.4                                                                                              | 0.054 J L                                                                                    | 0.079 J L                                                                                    | 0.032 J L                                                                                    | 0.14 J L                                                                                     | 0.11 J L                                                                                     | 0.14 J L                                                                                     | 0.081 J L                                                                                    |
| Arsenic                                                                                                                               | 5.8                                                                                              | 18.2                                                                                         | 2.7                                                                                          | 2.3                                                                                          | 2                                                                                            | 3.2 L                                                                                        | 3.5                                                                                          | 2.9                                                                                          |
| Barium                                                                                                                                | 1,600                                                                                            | 508 B                                                                                        | 115 B                                                                                        | 59.1 B                                                                                       | 522 B                                                                                        | 595 B                                                                                        | 97.9 B                                                                                       | 125 B                                                                                        |
| Beryllium                                                                                                                             | 63                                                                                               | 0.45                                                                                         | 0.92                                                                                         | 0.32                                                                                         | 1                                                                                            | 0.67 L                                                                                       | 0.84                                                                                         | 0.99                                                                                         |
| Cadmium                                                                                                                               | 7.5                                                                                              | 0.012 J L                                                                                    | 0.16                                                                                         | 0.058 J L                                                                                    | 0.092 J L                                                                                    | 0.074 J L                                                                                    | 0.039 J L                                                                                    | 0.16                                                                                         |
| Chromium                                                                                                                              | NS                                                                                               | 5.5 B                                                                                        | 15.6 B                                                                                       | 6.3 B                                                                                        | 17 B                                                                                         | 11.9 B                                                                                       | 15.1 B                                                                                       | 15.5 B                                                                                       |
| Cobalt                                                                                                                                | 660                                                                                              | 2.7                                                                                          | 13.2                                                                                         | 2.4                                                                                          | 13.5                                                                                         | 14.8                                                                                         | 12.2                                                                                         | 12.7                                                                                         |
| Copper                                                                                                                                | 1,000                                                                                            | 4.1 B L                                                                                      | 19.4 B L                                                                                     | 6.1 B L                                                                                      | 20.1 B L                                                                                     | 10.2 B L                                                                                     | 14.2 B L                                                                                     | 18.6 B L                                                                                     |
| Lead                                                                                                                                  | 270                                                                                              | 6.4 B                                                                                        | 13.9 B                                                                                       | 5.8 B                                                                                        | 18 B                                                                                         | 12.3 B                                                                                       | 14.2 B                                                                                       | 14.1 B                                                                                       |
| Mercury                                                                                                                               | 2.1                                                                                              | 0.14 U                                                                                       | 0.13 U                                                                                       | 0.12 U                                                                                       | 0.035 J                                                                                      | 0.12 U                                                                                       | 0.043 J                                                                                      | 0.026 J                                                                                      |
| Nickel                                                                                                                                | 130                                                                                              | 3 B L                                                                                        | 21.4 B L                                                                                     | 6.1 B L                                                                                      | 23.7 B L                                                                                     | 11.6 B L                                                                                     | 19.4 B L                                                                                     | 23.3 B L                                                                                     |
| Selenium                                                                                                                              | 5.2                                                                                              | 0.48 J                                                                                       | 1.1                                                                                          | 0.39 J                                                                                       | 1.2                                                                                          | 0.54 J                                                                                       | 0.83                                                                                         | 1.1                                                                                          |
| Silver                                                                                                                                | 31                                                                                               | 0.14 U L                                                                                     | 0.042 J L                                                                                    | 0.12 U L                                                                                     | 0.041 J L                                                                                    | 0.12 U L                                                                                     | 0.032 J L                                                                                    | 0.042 J L                                                                                    |
| Thallium                                                                                                                              | 2.8                                                                                              | 0.039 J L                                                                                    | 0.14                                                                                         | 0.056 J L                                                                                    | 0.15                                                                                         | 0.091 J L                                                                                    | 0.18                                                                                         | 0.15                                                                                         |
| Tin                                                                                                                                   | 110,000                                                                                          | 2.6 JB BL                                                                                    | 2.1 JB BL                                                                                    | 2.5 JB BL                                                                                    | 2.9 JB BL                                                                                    | 2.5 JB BL                                                                                    | 2.7 JB BL                                                                                    | 3 JB BL                                                                                      |
| Vanadium                                                                                                                              | 730                                                                                              | 10.5                                                                                         | 18.8                                                                                         | 7                                                                                            | 20.7                                                                                         | 17.8 L                                                                                       | 22.1                                                                                         | 19.7                                                                                         |
| Zinc                                                                                                                                  | 14,000                                                                                           | 21.8 B                                                                                       | 83.4 B                                                                                       | 19.4 B                                                                                       | 66.7 B                                                                                       | 34.3 B                                                                                       | 53.7 B                                                                                       | 76.7 B                                                                                       |

Notes:

1. NS denotes No Standard for the Chemical
2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Laboratory Data Qualifiers (LQ)

- U - Target analyte not detected above listed Reporting Limit
- J - Estimated result. Result is less than Reporting Limit
- B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.
- G - Elevated Reporting Limit due to matrix interference

Data Validation Qualifiers (DV)

- B - Not detected substantially above the level reported in the laboratory or field blanks
- J - Analyte is present. Reported value may not be accurate or precise.
- K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.
- L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.

**Table 23**  
**AOC 6 Aboveground Storage Tanks Summary of Locations,**  
**Analytical Parameters and Historical AST Contents**

| <b>Sample Location</b> | <b>Analytical Parameter</b>                                             | <b>Historical AST Contents</b>                                                            |
|------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| AOC6-01                | Appendix IX VOCs, SVOCs, PCBs, Metals and pH                            | Formaldehyde, Caustic Soda                                                                |
| AOC6-02                | Appendix IX VOCs, SVOCs, PCBs, Metals and pH                            | Formaldehyde, Caustic Soda                                                                |
| AOC6-03                | Appendix IX VOCs, SVOCs, PCBs, Metals and pH                            | Sulfuric Acid                                                                             |
| AOC6-04                | Appendix IX VOCs, SVOCs, PCBs, Metals and pH                            | Aniline Tank                                                                              |
| AOC6-05                | Appendix IX VOCs, SVOCs, PCBs, Metals, pH and Ethylene Glycol           | Ethylene Glycol, Ammonia, Chlorosulfonic Acid, Mixed Acid                                 |
| AOC6-06                | Appendix IX VOCs, SVOCs, PCBs, Metals, pH and Ethylene Glycol           | Hydrochloric Acid, Aniline Oil, Ethylene Glycol, Ammonia, Chlorosulfonic Acid, Mixed Acid |
| AOC6-07                | Appendix IX VOCs, SVOCs, PCBs, and Metals                               | Aniline Oil, Toluene, Xylene, Ethylbenzene                                                |
| AOC6-08                | Appendix IX VOCs, SVOCs, PCBs, and Metals                               | Aniline Oil, Toluene, Xylene, Ethylbenzene                                                |
| AOC6-09                | Appendix IX VOCs, SVOCs, PCBs, Metals and pH                            | Aniline Oil, Sulfuric Acid, Caustic Soda, Hydrochloric Acid                               |
| AOC6-10                | Appendix IX VOCs, SVOCs, PCBs, Metals and pH                            | Aniline Oil, Sulfuric Acid, Caustic Soda, Hydrochloric Acid                               |
| AOC6-11                | Appendix IX VOCs, SVOCs, PCBs, Metals and pH                            | Aniline Oil, Sulfuric Acid, Caustic Soda, Hydrochloric Acid                               |
| AOC6-12                | Appendix IX VOCs, SVOCs, PCBs, Metals and pH                            | Aniline Oil, Hydrochloric Acid                                                            |
| AOC6-13                | Appendix IX VOCs, SVOCs, PCBs, Metals and pH                            | Aniline Oil, Hydrochloric Acid                                                            |
| AOC6-14                | Appendix IX VOCs, SVOCs, PCBs, Metals, and Total Petroleum Hydrocarbons | #2 Fuel Oil                                                                               |
| AOC6-15                | Appendix IX VOCs, SVOCs, PCBs, Metals, and Total Petroleum Hydrocarbons | #2 Fuel Oil                                                                               |
| AOC6-16                | Appendix IX VOCs, SVOCs, PCBs, Metals, and Total Petroleum Hydrocarbons | #2 Fuel Oil                                                                               |

| Table 24                                                                                                             |          |                                                                |                                                                                |                                                                                                  |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |
|----------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|
| AOC 6 Soil Sample Results for Volatile Organic Compounds                                                             |          |                                                                |                                                                                |                                                                                                  |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |
| RCRA Facility Investigation Phase II                                                                                 |          |                                                                |                                                                                |                                                                                                  |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |
| Former BASF Huntington Works, Huntington, West Virginia                                                              |          |                                                                |                                                                                |                                                                                                  |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |                                                                        |    |    |
| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit: |          | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC6-01<br>AOC6-01-1.5<br>A9G160162007<br>07/15/2009<br>1.5-2<br>mg/Kg |    |    | AOC6-02<br>AOC6-02-1.5<br>A9G160162005<br>07/15/2009<br>1.5-2<br>mg/Kg |    |    | AOC6-03<br>AOC6-03-1.0<br>A9G160162008<br>07/15/2009<br>1-1.5<br>mg/Kg |    |    | AOC6-04<br>AOC6-04-1.5<br>A9G160162004<br>07/15/2009<br>1.5-2<br>mg/Kg |    |    | AOC6-05<br>AOC6-05-2.0<br>A9G160162010<br>07/15/2009<br>2-2.5<br>mg/Kg |    |    | AOC6-06<br>AOC6-06-5.0<br>A9G160162006<br>07/15/2009<br>5-5.5<br>mg/Kg |    |    | AOC6-07<br>AOC6-07-2.0<br>A9G160162003<br>07/15/2009<br>2-2.5<br>mg/Kg |    |    | AOC6-08<br>AOC6-08-6.5<br>A9G160162002<br>07/15/2009<br>6.5-7<br>mg/Kg |    |    | AOC6-09<br>AOC6-09-6.5<br>A9G150150010<br>07/14/2009<br>6.5-7<br>mg/Kg |    |    | AOC6-10<br>AOC6-10-2.5<br>A9G150150009<br>07/14/2009<br>2.5-3<br>mg/Kg |    |    |
| Chemical Name                                                                                                        | CAS RN   |                                                                |                                                                                |                                                                                                  | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ | DV |
| 1,1,1,2-Tetrachloroethane                                                                                            | 630-20-6 | 9.3                                                            | 71                                                                             | 0.0031                                                                                           | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  | U  |    | 0.054                                                                  | U  |    |
| 1,1,1-Trichloroethane                                                                                                | 71-55-6  | 38,000                                                         | 710                                                                            | 2.1                                                                                              | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  | U  |    | 0.054                                                                  | U  |    |
| 1,1,2,2-Tetrachloroethane                                                                                            | 79-34-5  | 2.8                                                            | 9                                                                              | 0.0004                                                                                           | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  | J  | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  | U  |    | 0.054                                                                  | U  |    |
| 1,1,2-Trichloroethane                                                                                                | 79-00-5  | 5.3                                                            | 19                                                                             | 0.035                                                                                            | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  | U  |    | 0.054                                                                  | U  |    |
| 1,1-Dichloroethane                                                                                                   | 75-34-3  | 17                                                             | 1,600                                                                          | 5.9                                                                                              | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  | U  |    | 0.054                                                                  | U  |    |
| 1,1-Dichloroethene                                                                                                   | 75-35-4  | 1,100                                                          | 430                                                                            | 0.059                                                                                            | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  | U  |    | 0.054                                                                  | U  |    |
| 1,2,3-Trichloropropane                                                                                               | 96-18-4  | 0.095                                                          | 11                                                                             | 0.00027                                                                                          | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  | U  |    | 0.054                                                                  | U  |    |
| 1,2-Dibromo-3-chloropropane                                                                                          | 96-12-8  | 0.069                                                          | 71                                                                             | 0.001                                                                                            | 0.011                                                                  | U  |    | 0.011                                                                  | U  |    | 0.0083                                                                 | U  |    | 0.013                                                                  | U  | J  | 0.011                                                                  | U  |    | 0.11                                                                   | U  | J  | 570                                                                    | U  |    | 0.11                                                                   | U  | J  | 0.11                                                                   | U  |    | 0.11                                                                   | U  |    |
| 1,2-Dibromoethane (EDB)                                                                                              | 106-93-4 | 0.17                                                           | 0.62                                                                           | 0.00026                                                                                          | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  | U  |    | 0.054                                                                  | U  |    |
| 1,2-Dichloroethane                                                                                                   | 107-06-2 | 2.2                                                            | 7.7                                                                            | 0.028                                                                                            | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  | U  |    | 0.054                                                                  | U  |    |
| 1,2-Dichloropropane                                                                                                  | 78-87-5  | 4.5                                                            | 14                                                                             | 0.03                                                                                             | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  | U  |    | 0.054                                                                  | U  |    |
| 1,4-Dioxane                                                                                                          | 123-91-1 | 160                                                            | 2,200                                                                          | 0.026                                                                                            | 0.28                                                                   | U  | R  | 0.28                                                                   | U  | R  | 0.21                                                                   | U  | R  | 0.33                                                                   | U  | R  | 0.27                                                                   | U  |    | 2.9                                                                    | U  | R  | 14,000                                                                 | U  | R  | 2.9                                                                    | U  | R  | 2.8                                                                    | U  |    | 2.7                                                                    | U  |    |
| 2-Butanone (MEK)                                                                                                     | 78-93-3  | 190,000                                                        | 56,000                                                                         | 29                                                                                               | 0.0045                                                                 | J  |    | 0.0018                                                                 | J  |    | 0.0031                                                                 | J  |    | 0.015                                                                  | J  |    | 0.0036                                                                 | J  |    | 0.23                                                                   | U  | J  | 1,100                                                                  | U  |    | 0.23                                                                   | U  | J  | 0.23                                                                   | U  |    | 0.22                                                                   | U  |    |
| 2-Hexanone                                                                                                           | 591-78-6 | 1,400                                                          | NS                                                                             | NS                                                                                               | 0.022                                                                  | U  |    | 0.022                                                                  | U  |    | 0.017                                                                  | U  |    | 0.027                                                                  | U  |    | 0.021                                                                  | U  |    | 0.23                                                                   | U  | J  | 1,100                                                                  | U  |    | 0.23                                                                   | U  | J  | 0.23                                                                   | U  |    | 0.22                                                                   | U  |    |
| 4-Methyl-2-pentanone (MIBK)                                                                                          | 108-10-1 | 53,000                                                         | 8,900                                                                          | 59                                                                                               | 0.022                                                                  | U  |    | 0.022                                                                  | U  |    | 0.017                                                                  | U  |    | 0.027                                                                  | U  |    | 0.021                                                                  | U  |    | 0.23                                                                   | U  | J  | 1,100                                                                  | U  |    | 0.018                                                                  | J  | J  | 0.23                                                                   | U  |    | 0.22                                                                   | U  |    |
| Acetone                                                                                                              | 67-64-1  | 630,000                                                        | 56,000                                                                         | 22                                                                                               | 0.037                                                                  |    |    | 0.016                                                                  | J  |    | 0.042                                                                  |    |    | 0.11                                                                   |    |    | 0.029                                                                  |    |    | 0.23                                                                   | U  | J  | 1,100                                                                  | U  |    | 0.18                                                                   | JB | BJ | 0.11                                                                   | JB |    | 0.22                                                                   | U  |    |
| Acetonitrile                                                                                                         | 75-05-8  | 3,700                                                          | 2,000                                                                          | 0.57                                                                                             | 0.56                                                                   | U  |    | 0.4                                                                    | U  | J  | 0.44                                                                   | U  |    | 0.58                                                                   | U  | J  | 0.49                                                                   | U  |    | 0.57                                                                   | U  | J  | 290                                                                    | U  |    | 0.57                                                                   | U  | J  | 0.56                                                                   | U  |    | 0.54                                                                   | U  |    |
| Acrolein                                                                                                             | 107-02-8 | 0.65                                                           | 0.31                                                                           | 0.0002                                                                                           | 0.11                                                                   | U  |    | 0.11                                                                   | U  |    | 0.083                                                                  | U  |    | 0.13                                                                   | U  |    | 0.11                                                                   | U  |    | 1.1                                                                    | U  | J  | 5,700                                                                  | U  |    | 1.1                                                                    | U  | J  | 1.1                                                                    | U  |    | 1.1                                                                    | U  |    |
| Acrylonitrile                                                                                                        | 107-13-1 | 1.2                                                            | 5.2                                                                            | 0.00016                                                                                          | 0.11                                                                   | U  |    | 0.11                                                                   | U  |    | 0.083                                                                  | U  |    | 0.13                                                                   | U  |    | 0.11                                                                   | U  |    | 1.1                                                                    | U  | J  | 5,700                                                                  | U  |    | 1.1                                                                    | U  | J  | 1.1                                                                    | U  |    | 1.1                                                                    | U  |    |
| Allyl chloride                                                                                                       | 107-05-1 | 3.4                                                            | NS                                                                             | NS                                                                                               | 0.056                                                                  | U  |    | 0.04                                                                   | U  | J  | 0.044                                                                  | U  |    | 0.058                                                                  | U  | J  | 0.049                                                                  | U  |    | 0.057                                                                  | U  | J  | 29                                                                     | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  | U  |    | 0.054                                                                  | U  |    |
| Benzene                                                                                                              | 71-43-2  | 5.4                                                            | 15                                                                             | 0.034                                                                                            | 0.00023                                                                | J  |    | 0.0015                                                                 | J  |    | 0.0042                                                                 | U  |    | 0.0016                                                                 | J  |    | 0.0053                                                                 | U  |    | 0.017                                                                  | J  | J  | 290                                                                    | U  |    | 0.13                                                                   |    | J  | 0.019                                                                  | J  |    | 0.023                                                                  | J  |    |
| Bromodichloromethane                                                                                                 | 75-27-4  | 1.4                                                            | 24                                                                             | 0.0015                                                                                           | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  | U  |    | 0.054                                                                  | U  |    |
| Bromoform                                                                                                            | 75-25-2  | 220                                                            | 3,100                                                                          | 0.064                                                                                            | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  | U  |    | 0.054                                                                  | U  |    |
| Bromomethane                                                                                                         | 74-83-9  | 32                                                             | 13                                                                             | 0.042                                                                                            | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  | U  |    | 0.054                                                                  | U  |    |
| Carbon disulfide                                                                                                     | 75-15-0  | 3,700                                                          | 470                                                                            | 8.3                                                                                              | 0.0017                                                                 | J  |    | 0.0036                                                                 | J  |    | 0.0011                                                                 | J  |    | 0.029                                                                  |    |    | 0.00096                                                                | J  |    | 0.38                                                                   |    | J  | 290                                                                    | U  |    | 1.3                                                                    |    | J  | 0.45                                                                   |    |    | 0.054                                                                  | U  |    |
| Carbon tetrachloride                                                                                                 | 56-23-5  | 1.2                                                            | 5.3                                                                            | 0.061                                                                                            | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  | U  |    | 0.054                                                                  | U  |    |
| Chlorobenzene                                                                                                        | 108-90-7 | 1,400                                                          | 310                                                                            | 1.3                                                                                              | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.0074                                                                 | J  | J  | 0.056                                                                  | U  |    | 0.02                                                                   | J  |    |
| Chloroethane                                                                                                         | 75-00-3  | 61,000                                                         | 65                                                                             | 0.021                                                                                            | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.11                                                                   | U  | J  | 570                                                                    | U  |    | 0.11                                                                   | U  | J  | 0.11                                                                   | U  |    | 0.11                                                                   | U  |    |
| Chloroform                                                                                                           | 67-66-3  | 1.5                                                            | 5.2                                                                            | 0.0011                                                                                           | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  | U  |    | 0.054                                                                  | U  |    |
| Chloromethane                                                                                                        | 74-87-3  | 500                                                            | 160                                                                            | 1.3                                                                                              | 0.0055                                                                 | U  |    | 0.0056                                                                 | U  |    | 0.0042                                                                 | U  |    | 0.0067                                                                 | U  |    | 0.0053                                                                 | U  |    | 0.057                                                                  | U  | J  | 290                                                                    | U  |    | 0.057                                                                  | U  | J  | 0.056                                                                  |    |    |                                                                        |    |    |

Table 24

AOC 6 Soil Sample Results for Volatile Organic Compounds

RCRA Facility Investigation Phase II

Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit: |            | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC6-11<br>AOC6-11-2.0<br>A9G150150007<br>07/14/2009<br>2-2.5<br>mg/Kg |    |    | AOC6-12<br>AOC6-12-8.0<br>A9G150150008<br>07/14/2009<br>8-8.5<br>mg/Kg |    |    | AOC6-13<br>AOC6-13-3.0<br>A9G150150006<br>07/14/2009<br>3-3.5<br>mg/Kg |    |    | AOC6-14<br>AOC6-14-2.0<br>A9G150161010<br>07/13/2009<br>2-2.5<br>mg/Kg |    |    | AOC6-15<br>AOC6-15-6.0<br>A9G150161011<br>07/13/2009<br>6-6.5<br>mg/Kg |    |    | AOC6-16<br>AOC6-16-2.0<br>A9G150161012<br>07/13/2009<br>2-2.5<br>mg/Kg |    |    | AOC6-03<br>AOC6-22-1.0<br>A9G160162009<br>07/15/2009<br>1-1.5<br>mg/Kg |    |    |
|----------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|------------------------------------------------------------------------|----|----|
| Chemical Name                                                                                                        | CAS RN     |                                                                |                                                                                |                                                                                                  | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ | DV | Result/RL                                                              | LQ | DV |
| 1,1,1,2-Tetrachloroethane                                                                                            | 630-20-6   | 9.3                                                            | 71                                                                             | 0.0031                                                                                           | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| 1,1,1-Trichloroethane                                                                                                | 71-55-6    | 38,000                                                         | 710                                                                            | 2.1                                                                                              | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| 1,1,2,2-Tetrachloroethane                                                                                            | 79-34-5    | 2.8                                                            | 9                                                                              | 0.0004                                                                                           | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| 1,1,2-Trichloroethane                                                                                                | 79-00-5    | 5.3                                                            | 19                                                                             | 0.035                                                                                            | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| 1,1-Dichloroethane                                                                                                   | 75-34-3    | 17                                                             | 1,600                                                                          | 5.9                                                                                              | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| 1,1-Dichloroethene                                                                                                   | 75-35-4    | 1,100                                                          | 430                                                                            | 0.059                                                                                            | 0.0012                                                                 | J  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| 1,2,3-Trichloropropane                                                                                               | 96-18-4    | 0.095                                                          | 11                                                                             | 0.00027                                                                                          | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| 1,2-Dibromo-3-chloropropane                                                                                          | 96-12-8    | 0.069                                                          | 71                                                                             | 0.001                                                                                            | 0.019                                                                  | U  |    | 0.16                                                                   | U  |    | 0.011                                                                  | U  |    | 0.0093                                                                 | U  |    | 0.01                                                                   | U  |    | 0.01                                                                   | U  |    | 0.011                                                                  | U  |    |
| 1,2-Dibromoethane (EDB)                                                                                              | 106-93-4   | 0.17                                                           | 0.62                                                                           | 0.00026                                                                                          | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| 1,2-Dichloroethane                                                                                                   | 107-06-2   | 2.2                                                            | 7.7                                                                            | 0.028                                                                                            | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| 1,2-Dichloropropane                                                                                                  | 78-87-5    | 4.5                                                            | 14                                                                             | 0.03                                                                                             | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| 1,4-Dioxane                                                                                                          | 123-91-1   | 160                                                            | 2,200                                                                          | 0.026                                                                                            | 0.48                                                                   | U  |    | 4.1                                                                    | U  |    | 0.27                                                                   | U  |    | 0.23                                                                   | U  | R  | 0.25                                                                   | U  | R  | 0.26                                                                   | U  | R  | 0.28                                                                   | U  | R  |
| 2-Butanone (MEK)                                                                                                     | 78-93-3    | 190,000                                                        | 56,000                                                                         | 29                                                                                               | 0.0065                                                                 | J  |    | 0.33                                                                   | U  |    | 0.021                                                                  | U  |    | 0.0056                                                                 | J  |    | 0.0013                                                                 | J  |    | 0.021                                                                  | U  |    | 0.0059                                                                 | J  |    |
| 2-Hexanone                                                                                                           | 591-78-6   | 1,400                                                          | NS                                                                             | NS                                                                                               | 0.038                                                                  | U  |    | 0.33                                                                   | U  |    | 0.021                                                                  | U  |    | 0.019                                                                  | U  |    | 0.02                                                                   | U  |    | 0.021                                                                  | U  |    | 0.023                                                                  | U  |    |
| 4-Methyl-2-pentanone (MIBK)                                                                                          | 108-10-1   | 53,000                                                         | 8,900                                                                          | 59                                                                                               | 0.038                                                                  | U  |    | 0.33                                                                   | U  |    | 0.021                                                                  | U  |    | 0.019                                                                  | U  |    | 0.02                                                                   | U  |    | 0.021                                                                  | U  |    | 0.023                                                                  | U  |    |
| Acetone                                                                                                              | 67-64-1    | 630,000                                                        | 56,000                                                                         | 22                                                                                               | 0.025                                                                  | J  |    | 0.23                                                                   | JB |    | 0.021                                                                  | U  |    | 0.06                                                                   |    |    | 0.0084                                                                 | J  |    | 0.0059                                                                 | J  |    | 0.059                                                                  |    |    |
| Acetonitrile                                                                                                         | 75-05-8    | 3,700                                                          | 2,000                                                                          | 0.57                                                                                             | 0.98                                                                   | U  |    | 0.82                                                                   | U  |    | 0.58                                                                   | U  |    | 0.47                                                                   | U  |    | 0.48                                                                   | U  |    | 0.5                                                                    | U  |    | 0.58                                                                   | U  |    |
| Acrolein                                                                                                             | 107-02-8   | 0.65                                                           | 0.31                                                                           | 0.0002                                                                                           | 0.19                                                                   | U  |    | 1.6                                                                    | U  |    | 0.11                                                                   | U  |    | 0.093                                                                  | U  |    | 0.1                                                                    | U  |    | 0.1                                                                    | U  |    | 0.11                                                                   | U  |    |
| Acrylonitrile                                                                                                        | 107-13-1   | 1.2                                                            | 5.2                                                                            | 0.00016                                                                                          | 0.19                                                                   | U  |    | 1.6                                                                    | U  |    | 0.11                                                                   | U  |    | 0.093                                                                  | U  |    | 0.1                                                                    | U  |    | 0.1                                                                    | U  |    | 0.11                                                                   | U  |    |
| Allyl chloride                                                                                                       | 107-05-1   | 3.4                                                            | NS                                                                             | NS                                                                                               | 0.098                                                                  | U  |    | 0.082                                                                  | U  |    | 0.058                                                                  | U  |    | 0.047                                                                  | U  |    | 0.048                                                                  | U  |    | 0.05                                                                   | U  |    | 0.058                                                                  | U  |    |
| Benzene                                                                                                              | 71-43-2    | 5.4                                                            | 15                                                                             | 0.034                                                                                            | 0.11                                                                   |    |    | 0.68                                                                   |    |    | 0.0012                                                                 | J  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.00032                                                                | J  |    |
| Bromodichloromethane                                                                                                 | 75-27-4    | 1.4                                                            | 24                                                                             | 0.0015                                                                                           | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Bromoform                                                                                                            | 75-25-2    | 220                                                            | 3,100                                                                          | 0.064                                                                                            | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Bromomethane                                                                                                         | 74-83-9    | 32                                                             | 13                                                                             | 0.042                                                                                            | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Carbon disulfide                                                                                                     | 75-15-0    | 3,700                                                          | 470                                                                            | 8.3                                                                                              | 0.099                                                                  |    |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0011                                                                 | J  |    |
| Carbon tetrachloride                                                                                                 | 56-23-5    | 1.2                                                            | 5.3                                                                            | 0.061                                                                                            | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Chlorobenzene                                                                                                        | 108-90-7   | 1,400                                                          | 310                                                                            | 1.3                                                                                              | 0.0012                                                                 | J  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Chloroethane                                                                                                         | 75-00-3    | 61,000                                                         | 65                                                                             | 0.021                                                                                            | 0.0095                                                                 | U  |    | 0.16                                                                   | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Chloroform                                                                                                           | 67-66-3    | 1.5                                                            | 5.2                                                                            | 0.0011                                                                                           | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Chloromethane                                                                                                        | 74-87-3    | 500                                                            | 160                                                                            | 1.3                                                                                              | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Chloroprene                                                                                                          | 126-99-8   | 36                                                             | 12                                                                             | 0.12                                                                                             | 0.098                                                                  | U  |    | 0.082                                                                  | U  |    | 0.058                                                                  | U  |    | 0.047                                                                  | U  |    | 0.048                                                                  | U  |    | 0.05                                                                   | U  |    | 0.058                                                                  | U  |    |
| cis-1,3-Dichloropropene                                                                                              | 10061-01-5 | NS                                                             | NS                                                                             | NS                                                                                               | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Dibromochloromethane                                                                                                 | 124-48-1   | 3.3                                                            | 680                                                                            | 0.018                                                                                            | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Dibromomethane                                                                                                       | 74-95-3    | 110                                                            | 240                                                                            | 0.31                                                                                             | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Dichlorodifluoromethane                                                                                              | 75-71-8    | 780                                                            | 190                                                                            | 5.3                                                                                              | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Ethyl methacrylate                                                                                                   | 97-63-2    | 92,000                                                         | 55                                                                             | 30                                                                                               | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Ethylbenzene                                                                                                         | 100-41-4   | 27                                                             | 110                                                                            | 8.9                                                                                              | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Iodomethane                                                                                                          | 74-88-4    | NS                                                             | NS                                                                             | NS                                                                                               | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0013                                                                 | J  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Isobutyl alcohol                                                                                                     | 78-83-1    | 310,000                                                        | 27,000                                                                         | 12                                                                                               | 2                                                                      | U  |    | 1.6                                                                    | U  |    | 1.2                                                                    | U  |    | 0.94                                                                   | U  | R  | 0.96                                                                   | U  | R  | 1                                                                      | U  | R  | 1.2                                                                    | U  | R  |
| Methacrylonitrile                                                                                                    | 126-98-7   | 18                                                             | 8.8                                                                            | 0.0042                                                                                           | 0.098                                                                  | U  |    | 0.082                                                                  | U  |    | 0.058                                                                  | U  |    | 0.047                                                                  | U  |    | 0.048                                                                  | U  |    | 0.05                                                                   | U  |    | 0.058                                                                  | U  |    |
| Methyl methacrylate                                                                                                  | 80-62-6    | 21,000                                                         | 3,400                                                                          | 6.5                                                                                              | 0.098                                                                  | U  |    | 0.082                                                                  | U  |    | 0.058                                                                  | U  |    | 0.047                                                                  | U  |    | 0.048                                                                  | U  |    | 0.05                                                                   | U  |    | 0.058                                                                  | U  |    |
| Methylene chloride                                                                                                   | 75-09-2    | 53                                                             | 210                                                                            | 0.023                                                                                            | 0.0095                                                                 | U  |    | 0.33                                                                   | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Propionitrile                                                                                                        | 107-12-0   | NS                                                             | NS                                                                             | NS                                                                                               | 0.2                                                                    | U  |    | 0.16                                                                   | U  |    | 0.12                                                                   | U  |    | 0.094                                                                  | U  |    | 0.096                                                                  | U  |    | 0.1                                                                    | U  |    | 0.12                                                                   | U  |    |
| Styrene                                                                                                              | 100-42-5   | 36,000                                                         | 630                                                                            | 4.1                                                                                              | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Tetrachloroethene                                                                                                    | 127-18-4   | 2.6                                                            | 19                                                                             | 0.08                                                                                             | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Toluene                                                                                                              | 108-88-3   | 45,000                                                         | 260                                                                            | 10                                                                                               | 0.021                                                                  |    |    | 0.12                                                                   |    |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| trans-1,2-Dichloroethene                                                                                             | 156-60-5   | 690                                                            | 180                                                                            | 0.62                                                                                             | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| trans-1,3-Dichloropropene                                                                                            | 10061-02-6 | NS                                                             | NS                                                                             | NS                                                                                               | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| trans-1,4-Dichloro-2-butene                                                                                          | 110-57-6   | 0.035                                                          | NS                                                                             | NS                                                                                               | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Trichloroethene                                                                                                      | 79-01-6    | 14                                                             | 0.92                                                                           | 0.043                                                                                            | 0.029                                                                  |    |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Trichlorofluoromethane                                                                                               | 75-69-4    | 3,400                                                          | 950                                                                            | 22                                                                                               | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Vinyl acetate                                                                                                        | 108-05-4   | 4,100                                                          | 1,400                                                                          | 1.8                                                                                              | 0.019                                                                  | U  |    | 0.16                                                                   | U  |    | 0.011                                                                  | U  |    | 0.0093                                                                 | U  |    | 0.01                                                                   | U  |    | 0.01                                                                   | U  |    | 0.011                                                                  | U  |    |
| Vinyl chloride                                                                                                       | 75-01-4    | 1.7                                                            | 8.8                                                                            | 0.013                                                                                            | 0.0095                                                                 | U  |    | 0.082                                                                  | U  |    | 0.0054                                                                 | U  |    | 0.0047                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0051                                                                 | U  |    | 0.0057                                                                 | U  |    |
| Xylenes (total)                                                                                                      | 1330-20-7  | 2,700                                                          | 100                                                                            | 120                                                                                              | 0.019                                                                  | U  |    | 0.16                                                                   | U  |    | 0.011                                                                  | U  |    | 0.0093                                                                 | U  |    | 0.01                                                                   | U  |    | 0.01                                                                   | U  |    | 0.011                                                                  | U  |    |

Notes:

1. NS denotes No Standard for the Chemical
2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Labatory Data Qualifiers (LQ)

- U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers (DV)

- B - Not detected substantially above the level reported in the laboratory or field blanks  
J - Analyte is present. Reported value may not be accurate or precise.  
K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.  
L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.  
R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample. Supporting data is necessary to confirm.

TABLE 25  
AOC 6 Soil Sample Results for Semivolatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit:<br>Chemical Name |          | CAS RN | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC6-01<br>AOC6-01-1.5<br>A9G160162007<br>07/15/2009<br>1.5-2<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-02<br>AOC6-02-1.5<br>A9G160162005<br>07/15/2009<br>1.5-2<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-03<br>AOC6-03-1.0<br>A9G160162008<br>07/15/2009<br>1-1.5<br>mg/Kg<br>Result/RL LQ DV |          |  | AOC6-04<br>AOC6-04-1.5<br>A9G160162004<br>07/15/2009<br>1.5-2<br>mg/Kg<br>Result/RL LQ DV |  |         | AOC6-05<br>AOC6-05-2.0<br>A9G160162010<br>07/15/2009<br>2-2.5<br>mg/Kg<br>Result/RL LQ DV |  |          | AOC6-06<br>AOC6-06-5.0<br>A9G160162006<br>07/15/2009<br>5-5.5<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-07<br>AOC6-07-2.0<br>A9G160162003<br>07/15/2009<br>2-2.5<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-08<br>AOC6-08-6.5<br>A9G160162002<br>07/15/2009<br>6.5-7<br>mg/Kg<br>Result/RL LQ DV |       |  | AOC6-09<br>AOC6-09-6.5<br>A9G150150010<br>07/14/2009<br>6.5-7<br>mg/Kg<br>Result/RL LQ DV |  |        |  |  |  |        |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------|----------|--------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|----------|--|-------------------------------------------------------------------------------------------|--|---------|-------------------------------------------------------------------------------------------|--|----------|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|-------|--|-------------------------------------------------------------------------------------------|--|--------|--|--|--|--------|--|--|
| 1,2,4,5-Tetrachlorobenzene                                                                                                            | 95-94-3  | 180    | 260                                                            | 0.66                                                                           | 0.11 U                                                                                           |                                                                                           |  |  | 0.13 U                                                                                    |   |  |                                                                                           | 0.12 U   |  |                                                                                           |  | 1.4 U   |                                                                                           |  | 0.11 U   |                                                                                           |  |  | 0.13 U                                                                                    |  |  |                                                                                           | 17 U  |  |                                                                                           |  | 3.6 U  |  |  |  | 13 U   |  |  |
| 1,2,4-Trichlorobenzene                                                                                                                | 120-82-1 | 99     | 20,000                                                         | 4.9                                                                            | 0.057 U                                                                                          |                                                                                           |  |  | 0.065 U                                                                                   |   |  |                                                                                           | 0.059 U  |  |                                                                                           |  | 0.69 U  |                                                                                           |  | 0.054 U  |                                                                                           |  |  | 0.067 U                                                                                   |  |  |                                                                                           | 8.3 U |  |                                                                                           |  | 1.8 U  |  |  |  | 6.7 U  |  |  |
| 1,2-Dichlorobenzene                                                                                                                   | 95-50-1  | 9,800  | 150                                                            | 12                                                                             | 0.057 U                                                                                          |                                                                                           |  |  | 0.065 U                                                                                   |   |  |                                                                                           | 0.059 U  |  |                                                                                           |  | 0.69 U  | J                                                                                         |  | 0.054 U  |                                                                                           |  |  | 0.067 U                                                                                   |  |  |                                                                                           | 8.3 U |  |                                                                                           |  | 1.8 U  |  |  |  | 6.7 U  |  |  |
| 1,2-Diphenylhydrazine                                                                                                                 | 122-66-7 | 2.2    | 31                                                             | 0.0026                                                                         | 0.057 U                                                                                          |                                                                                           |  |  | 0.065 U                                                                                   |   |  |                                                                                           | 0.059 U  |  |                                                                                           |  | 0.69 U  |                                                                                           |  | 0.054 U  |                                                                                           |  |  | 0.067 U                                                                                   |  |  |                                                                                           | 8.3 U |  |                                                                                           |  | 1.8 U  |  |  |  | 6.7 U  |  |  |
| 1,3,5-Trinitrobenzene                                                                                                                 | 99-35-4  | 27,000 | 26,000                                                         | 52                                                                             | 1.8 U                                                                                            |                                                                                           |  |  | 2.1 U                                                                                     |   |  |                                                                                           | 1.9 U    |  |                                                                                           |  | 22 U    |                                                                                           |  | 1.7 U    |                                                                                           |  |  | 2.1 U                                                                                     |  |  |                                                                                           | 260 U |  |                                                                                           |  | 57 U   |  |  |  | 210 U  |  |  |
| 1,3-Dichlorobenzene                                                                                                                   | 541-73-1 | NS     | 130                                                            | 12                                                                             | 0.057 U                                                                                          |                                                                                           |  |  | 0.065 U                                                                                   |   |  |                                                                                           | 0.059 U  |  |                                                                                           |  | 0.69 U  | J                                                                                         |  | 0.054 U  |                                                                                           |  |  | 0.067 U                                                                                   |  |  |                                                                                           | 8.3 U |  |                                                                                           |  | 1.8 U  |  |  |  | 6.7 U  |  |  |
| 1,3-Dinitrobenzene                                                                                                                    | 99-65-0  | 62     | 88                                                             | 0.037                                                                          | 0.38 U                                                                                           |                                                                                           |  |  | 0.43 U                                                                                    |   |  |                                                                                           | 0.39 U   |  |                                                                                           |  | 4.5 U   |                                                                                           |  | 0.36 U   |                                                                                           |  |  | 0.44 U                                                                                    |  |  |                                                                                           | 55 U  |  |                                                                                           |  | 12 U   |  |  |  | 44 U   |  |  |
| 1,4-Dichlorobenzene                                                                                                                   | 106-46-7 | 12     | 45                                                             | 2.2                                                                            | 0.057 U                                                                                          |                                                                                           |  |  | 0.065 U                                                                                   |   |  |                                                                                           | 0.059 U  |  |                                                                                           |  | 0.69 U  | J                                                                                         |  | 0.054 U  |                                                                                           |  |  | 0.067 U                                                                                   |  |  |                                                                                           | 8.3 U |  |                                                                                           |  | 1.8 U  |  |  |  | 6.7 U  |  |  |
| 1,4-Naphthoquinone                                                                                                                    | 130-15-4 | NS     | NS                                                             | NS                                                                             | 0.38 U                                                                                           |                                                                                           |  |  | 0.43 U                                                                                    |   |  |                                                                                           | 0.39 U   |  |                                                                                           |  | 4.5 U   |                                                                                           |  | 0.36 U   |                                                                                           |  |  | 0.44 U                                                                                    |  |  |                                                                                           | 55 U  |  |                                                                                           |  | 12 U   |  |  |  | 44 U   |  |  |
| 1-Naphthylamine                                                                                                                       | 134-32-7 | NS     | NS                                                             | NS                                                                             | 0.38 U                                                                                           |                                                                                           |  |  | 0.43 U                                                                                    |   |  |                                                                                           | 0.39 U   |  |                                                                                           |  | 4.5 U   |                                                                                           |  | 0.36 U   |                                                                                           |  |  | 0.44 U                                                                                    |  |  |                                                                                           | 55 U  |  |                                                                                           |  | 12 U   |  |  |  | 44 U   |  |  |
| 2,3,4,6-Tetrachlorophenol                                                                                                             | 58-90-2  | 18,000 | 26,000                                                         | 92                                                                             | 0.11 U                                                                                           |                                                                                           |  |  | 0.13 U                                                                                    |   |  |                                                                                           | 0.12 U   |  |                                                                                           |  | 1.4 U   |                                                                                           |  | 0.11 U   |                                                                                           |  |  | 0.13 U                                                                                    |  |  |                                                                                           | 17 U  |  |                                                                                           |  | 3.6 U  |  |  |  | 13 U   |  |  |
| 2,4,5-Trichlorophenol                                                                                                                 | 95-95-4  | 62,000 | 88,000                                                         | 250                                                                            | 0.17 U                                                                                           |                                                                                           |  |  | 0.2 U                                                                                     |   |  |                                                                                           | 0.18 U   |  |                                                                                           |  | 2.1 U   |                                                                                           |  | 0.16 U   |                                                                                           |  |  | 0.2 U                                                                                     |  |  |                                                                                           | 25 U  |  |                                                                                           |  | 5.3 U  |  |  |  | 20 U   |  |  |
| 2,4,6-Trichlorophenol                                                                                                                 | 88-06-2  | 160    | 2,200                                                          | 0.12                                                                           | 0.17 U                                                                                           |                                                                                           |  |  | 0.2 U                                                                                     |   |  |                                                                                           | 0.18 U   |  |                                                                                           |  | 2.1 U   |                                                                                           |  | 0.16 U   |                                                                                           |  |  | 0.2 U                                                                                     |  |  |                                                                                           | 25 U  |  |                                                                                           |  | 5.3 U  |  |  |  | 20 U   |  |  |
| 2,4-Dichlorophenol                                                                                                                    | 120-83-2 | 1,800  | 2,600                                                          | 1.1                                                                            | 0.17 U                                                                                           |                                                                                           |  |  | 0.2 U                                                                                     |   |  |                                                                                           | 0.18 U   |  |                                                                                           |  | 2.1 U   |                                                                                           |  | 0.16 U   |                                                                                           |  |  | 0.2 U                                                                                     |  |  |                                                                                           | 25 U  |  |                                                                                           |  | 5.3 U  |  |  |  | 20 U   |  |  |
| 2,4-Dimethylphenol                                                                                                                    | 105-67-9 | 12,000 | 18,000                                                         | 9                                                                              | 0.17 U                                                                                           |                                                                                           |  |  | 0.2 U                                                                                     |   |  |                                                                                           | 0.18 U   |  |                                                                                           |  | 2.1 U   |                                                                                           |  | 0.16 U   |                                                                                           |  |  | 0.2 U                                                                                     |  |  |                                                                                           | 25 U  |  |                                                                                           |  | 5.3 U  |  |  |  | 20 U   |  |  |
| 2,4-Dinitrophenol                                                                                                                     | 51-28-5  | 1,200  | 1,800                                                          | 0.29                                                                           | 0.38 U                                                                                           |                                                                                           |  |  | 0.43 U                                                                                    |   |  |                                                                                           | 0.39 U   |  |                                                                                           |  | 4.5 U   |                                                                                           |  | 0.36 U   |                                                                                           |  |  | 0.44 U                                                                                    |  |  |                                                                                           | 55 U  |  |                                                                                           |  | 12 U   |  |  |  | 44 U   |  |  |
| 2,4-Dinitrotoluene                                                                                                                    | 121-14-2 | 5.5    | 1,800                                                          | 0.57                                                                           | 0.23 U                                                                                           |                                                                                           |  |  | 0.26 U                                                                                    |   |  |                                                                                           | 0.23 U   |  |                                                                                           |  | 2.7 U   |                                                                                           |  | 0.22 U   |                                                                                           |  |  | 0.27 U                                                                                    |  |  |                                                                                           | 33 U  |  |                                                                                           |  | 7.1 U  |  |  |  | 27 U   |  |  |
| 2,6-Dichlorophenol                                                                                                                    | 87-65-0  | NS     | NS                                                             | NS                                                                             | 0.23 U                                                                                           |                                                                                           |  |  | 0.26 U                                                                                    |   |  |                                                                                           | 0.23 U   |  |                                                                                           |  | 2.7 U   |                                                                                           |  | 0.22 U   |                                                                                           |  |  | 0.27 U                                                                                    |  |  |                                                                                           | 33 U  |  |                                                                                           |  | 7.1 U  |  |  |  | 27 U   |  |  |
| 2,6-Dinitrotoluene                                                                                                                    | 606-20-2 | 620    | 890                                                            | 0.25                                                                           | 0.23 U                                                                                           |                                                                                           |  |  | 0.26 U                                                                                    |   |  |                                                                                           | 0.23 U   |  |                                                                                           |  | 2.7 U   |                                                                                           |  | 0.22 U   |                                                                                           |  |  | 0.27 U                                                                                    |  |  |                                                                                           | 33 U  |  |                                                                                           |  | 7.1 U  |  |  |  | 27 U   |  |  |
| 2-Acetylaminofluorene                                                                                                                 | 53-96-3  | 0.45   | NS                                                             | NS                                                                             | 0.38 U                                                                                           |                                                                                           |  |  | 0.43 U                                                                                    |   |  |                                                                                           | 0.39 U   |  |                                                                                           |  | 4.5 U   |                                                                                           |  | 0.36 U   |                                                                                           |  |  | 0.44 U                                                                                    |  |  |                                                                                           | 55 U  |  |                                                                                           |  | 12 U   |  |  |  | 44 U   |  |  |
| 2-Chloronaphthalene                                                                                                                   | 91-58-7  | 82,000 | 27,000                                                         | 32                                                                             | 0.057 U                                                                                          |                                                                                           |  |  | 0.065 U                                                                                   |   |  |                                                                                           | 0.059 U  |  |                                                                                           |  | 0.69 U  |                                                                                           |  | 0.054 U  |                                                                                           |  |  | 0.067 U                                                                                   |  |  |                                                                                           | 8.3 U |  |                                                                                           |  | 1.8 U  |  |  |  | 6.7 U  |  |  |
| 2-Chlorophenol                                                                                                                        | 95-57-8  | 5,100  | 240                                                            | 0.61                                                                           | 0.057 U                                                                                          |                                                                                           |  |  | 0.065 U                                                                                   |   |  |                                                                                           | 0.059 U  |  |                                                                                           |  | 0.69 U  | J                                                                                         |  | 0.054 U  |                                                                                           |  |  | 0.067 U                                                                                   |  |  |                                                                                           | 8.3 U |  |                                                                                           |  | 1.8 U  |  |  |  | 6.7 U  |  |  |
| 2-Methylnaphthalene                                                                                                                   | 91-57-6  | 4,100  | NS                                                             | NS                                                                             | 0.018                                                                                            |                                                                                           |  |  | 0.0087 U                                                                                  |   |  |                                                                                           | 0.0078 U |  |                                                                                           |  | 0.092 U |                                                                                           |  | 0.0072 U |                                                                                           |  |  | 0.009 U                                                                                   |  |  |                                                                                           | 1.1 U |  |                                                                                           |  | 0.24 U |  |  |  | 0.89 U |  |  |
| 2-Methylphenol                                                                                                                        | 95-48-7  | 31,000 | 44,000                                                         | 14                                                                             | 0.23 U                                                                                           |                                                                                           |  |  | 0.26 U                                                                                    |   |  |                                                                                           | 0.23 U   |  |                                                                                           |  | 2.7 U   | J                                                                                         |  | 0.22 U   |                                                                                           |  |  | 0.27 U                                                                                    |  |  |                                                                                           | 33 U  |  |                                                                                           |  | 7.1 U  |  |  |  | 27 U   |  |  |
| 2-Naphthylamine                                                                                                                       | 91-59-8  | 0.96   | NS                                                             | NS                                                                             | 0.23 U                                                                                           |                                                                                           |  |  | 0.048                                                                                     | J |  |                                                                                           | 0.23 U   |  |                                                                                           |  | 2.7 U   |                                                                                           |  | 0.22 U   |                                                                                           |  |  | 0.28                                                                                      |  |  |                                                                                           | 33 U  |  |                                                                                           |  | 7.1 U  |  |  |  | 27 U   |  |  |
| 2-Nitroaniline                                                                                                                        | 88-74-4  | 6,000  | 2,600                                                          | 0.56                                                                           | 0.23 U                                                                                           |                                                                                           |  |  | 0.26 U                                                                                    |   |  |                                                                                           | 0.23 U   |  |                                                                                           |  | 2.7 U   |                                                                                           |  | 0.22 U   |                                                                                           |  |  | 0.27 U                                                                                    |  |  |                                                                                           | 33 U  |  |                                                                                           |  | 7.1 U  |  |  |  | 27 U   |  |  |
| 2-Nitrophenol                                                                                                                         | 88-75-5  | NS     | NS                                                             | NS                                                                             | 0.057 U                                                                                          |                                                                                           |  |  | 0.065 U                                                                                   |   |  |                                                                                           | 0.059 U  |  |                                                                                           |  | 0.69 U  |                                                                                           |  | 0.054 U  |                                                                                           |  |  | 0.067 U                                                                                   |  |  |                                                                                           | 8.3 U |  |                                                                                           |  | 1.8 U  |  |  |  | 6.7 U  |  |  |
| 2-Picoline                                                                                                                            | 109-06-8 | NS     | NS                                                             | NS                                                                             | 0.38 U                                                                                           |                                                                                           |  |  | 0.43 U                                                                                    |   |  |                                                                                           | 0.39 U   |  |                                                                                           |  | 4.5 U   | J                                                                                         |  | 0.36 U   |                                                                                           |  |  | 0.44 U                                                                                    |  |  |                                                                                           | 55 U  |  |                                                                                           |  | 12 U   |  |  |  | 44 U   |  |  |
| 2-sec-Butyl-4,6-dinitrophenol                                                                                                         | 88-85-7  | 620    | 880                                                            | 0.033                                                                          | 0.38 U                                                                                           |                                                                                           |  |  | 0.43 U                                                                                    |   |  |                                                                                           | 0.39 U   |  |                                                                                           |  | 4.5 U   |                                                                                           |  | 0.36 U   |                                                                                           |  |  | 0.44 U                                                                                    |  |  |                                                                                           | 55 U  |  |                                                                                           |  | 12 U   |  |  |  | 44 U   |  |  |
| 3,3'-Dichlorobenzidine                                                                                                                | 91-94-1  | 3.8    | 55                                                             | 0.0049                                                                         | 0.11 U                                                                                           |                                                                                           |  |  | 0.13 U                                                                                    |   |  |                                                                                           | 0.12 U   |  |                                                                                           |  | 1.4 U   |                                                                                           |  | 0.11 U   |                                                                                           |  |  | 0.13 U                                                                                    |  |  |                                                                                           | 17 U  |  |                                                                                           |  | 3.6 U  |  |  |  | 13 U   |  |  |
| 3,3'-Dimethoxybenzidine                                                                                                               | 119-90-4 | 120    | 1,800                                                          | 0.3                                                                            | 0.38 U                                                                                           |                                                                                           |  |  | 0.43 U                                                                                    |   |  |                                                                                           | 0.39 U   |  |                                                                                           |  | 4.5 U   |                                                                                           |  | 0.36 U   |                                                                                           |  |  | 0.44 U                                                                                    |  |  |                                                                                           | 55 U  |  |                                                                                           |  | 12 U   |  |  |  | 44 U   |  |  |
| 3,3'-Dimethylbenzidine                                                                                                                | 119-93-7 | 0.16   | 11                                                             | 0.0089                                                                         | 0.38 U                                                                                           |                                                                                           |  |  | 0.43 U                                                                                    |   |  |                                                                                           | 0.39 U   |  |                                                                                           |  | 4.5 U   |                                                                                           |  | 0.36 U   |                                                                                           |  |  | 0.44 U                                                                                    |  |  |                                                                                           | 55 U  |  |                                                                                           |  | 12 U   |  |  |  | 44 U   |  |  |
| 3-Methylcholanthrene                                                                                                                  | 56-49-5  | 0.078  | NS                                                             | NS                                                                             | 0.23 U                                                                                           |                                                                                           |  |  | 0.26 U                                                                                    |   |  |                                                                                           | 0.23 U   |  |                                                                                           |  |         |                                                                                           |  |          |                                                                                           |  |  |                                                                                           |  |  |                                                                                           |       |  |                                                                                           |  |        |  |  |  |        |  |  |

TABLE 25  
AOC 6 Soil Sample Results for Semivolatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit:<br>Chemical Name |           | CAS RN  | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC6-01<br>AOC6-01-1.5<br>A9G160162007<br>07/15/2009<br>1.5-2<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-02<br>AOC6-02-1.5<br>A9G160162005<br>07/15/2009<br>1.5-2<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-03<br>AOC6-03-1.0<br>A9G160162008<br>07/15/2009<br>1-1.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-04<br>AOC6-04-1.5<br>A9G160162004<br>07/15/2009<br>1.5-2<br>mg/Kg<br>Result/RL LQ DV |   |   | AOC6-05<br>AOC6-05-2.0<br>A9G160162010<br>07/15/2009<br>2-2.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-06<br>AOC6-06-5.0<br>A9G160162006<br>07/15/2009<br>5-5.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-07<br>AOC6-07-2.0<br>A9G160162003<br>07/15/2009<br>2-2.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-08<br>AOC6-08-6.5<br>A9G160162002<br>07/15/2009<br>6.5-7<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-09<br>AOC6-09-6.5<br>A9G150150010<br>07/14/2009<br>6.5-7<br>mg/Kg<br>Result/RL LQ DV |   |  |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------|---------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|---|---|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|---|--|
| 5-Nitro-o-toluidine                                                                                                                   | 99-55-8   | 52      | 750                                                            | 0.015                                                                          | 0.38                                                                                             | U                                                                                         |  |  | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| 7,12-Dimethylbenz(a)anthracene                                                                                                        | 57-97-6   | 0.0062  | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |  |  | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| a,a-Dimethylphenethylamine                                                                                                            | 122-09-8  | NS      | NS                                                             | NS                                                                             | 0.76                                                                                             | U                                                                                         |  |  | 0.86                                                                                      | U |  | 0.77                                                                                      | U |  | 9.1                                                                                       | U |   | 0.71                                                                                      | U |  | 0.89                                                                                      | U |  | 110                                                                                       | U |  | 24                                                                                        | U |  | 89                                                                                        | U |  |
| Acenaphthene                                                                                                                          | 83-32-9   | 33,000  | 38,000                                                         | 73                                                                             | 0.0077                                                                                           | U                                                                                         |  |  | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.092                                                                                     | U |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | 1.1                                                                                       | U |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Acenaphthylene                                                                                                                        | 208-96-8  | NS      | 44,000                                                         | 91                                                                             | 0.0077                                                                                           | U                                                                                         |  |  | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.092                                                                                     | U |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | 1.1                                                                                       | U |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Acetophenone                                                                                                                          | 98-86-2   | 100,000 | 25,000                                                         | 3.2                                                                            | 0.11                                                                                             | U                                                                                         |  |  | 0.13                                                                                      | U |  | 0.12                                                                                      | U |  | 1.4                                                                                       | U | J | 0.11                                                                                      | U |  | 0.13                                                                                      | U |  | 17                                                                                        | U |  | 3.6                                                                                       | U |  | 13                                                                                        | U |  |
| Aniline                                                                                                                               | 62-53-3   | 300     | 4,300                                                          | 0.14                                                                           | 0.029                                                                                            | J                                                                                         |  |  | 0.055                                                                                     | J |  | 0.39                                                                                      | U |  | 1.2                                                                                       | J | J | 0.36                                                                                      | U |  | 0.37                                                                                      | J |  | 32                                                                                        | J |  | 34                                                                                        |   |  | 85                                                                                        |   |  |
| Anthracene                                                                                                                            | 120-12-7  | 170,000 | 390,000                                                        | 1700                                                                           | 0.0077                                                                                           | U                                                                                         |  |  | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.092                                                                                     | U |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | 1.1                                                                                       | U |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Aramite                                                                                                                               | 140-57-8  | 69      | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |  |  | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Benzidine                                                                                                                             | 92-87-5   | 0.0075  | 0.11                                                           | 0.000033                                                                       | 0.38                                                                                             | U                                                                                         |  |  | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Benzo(a)anthracene                                                                                                                    | 56-55-3   | 2.1     | 29                                                             | 1.5                                                                            | 0.0077                                                                                           | U                                                                                         |  |  | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.092                                                                                     | U |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | 1.1                                                                                       | U |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Benzo(a)pyrene                                                                                                                        | 50-32-8   | 0.21    | 2.9                                                            | 8.2                                                                            | 0.0077                                                                                           | U                                                                                         |  |  | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.092                                                                                     | U |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | 1.1                                                                                       | U |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Benzo(b)fluoranthene                                                                                                                  | 205-99-2  | 2.1     | 29                                                             | 4.5                                                                            | 0.0077                                                                                           | U                                                                                         |  |  | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.092                                                                                     | U |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | 1.1                                                                                       | U |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Benzo(ghi)perylene                                                                                                                    | 191-24-2  | NS      | 23,000                                                         | 120,000                                                                        | 0.0077                                                                                           | U                                                                                         |  |  | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.092                                                                                     | U |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | 1.1                                                                                       | U |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Benzo(k)fluoranthene                                                                                                                  | 207-08-9  | 21      | 290                                                            | 45                                                                             | 0.0077                                                                                           | U                                                                                         |  |  | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.092                                                                                     | U |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | 1.1                                                                                       | U |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Benzyl alcohol                                                                                                                        | 100-51-6  | 62,000  | 440,000                                                        | 150                                                                            | 0.38                                                                                             | U                                                                                         |  |  | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U | J | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| bis(2-Chloro-1-methylethyl) ether                                                                                                     | 108-60-1  | 22      | 81                                                             | 0.0018                                                                         | 0.11                                                                                             | U                                                                                         |  |  | 0.13                                                                                      | U |  | 0.12                                                                                      | U |  | 1.4                                                                                       | U |   | 0.11                                                                                      | U |  | 0.13                                                                                      | U |  | 17                                                                                        | U |  | 3.6                                                                                       | U |  | 13                                                                                        | U |  |
| bis(2-Chloroethoxy)methane                                                                                                            | 111-91-1  | 1,800   | NS                                                             | NS                                                                             | 0.11                                                                                             | U                                                                                         |  |  | 0.13                                                                                      | U |  | 0.12                                                                                      | U |  | 1.4                                                                                       | U |   | 0.11                                                                                      | U |  | 0.13                                                                                      | U |  | 17                                                                                        | U |  | 3.6                                                                                       | U |  | 13                                                                                        | U |  |
| bis(2-Chloroethyl) ether                                                                                                              | 111-44-4  | 1.0     | 6                                                              | 0.56                                                                           | 0.11                                                                                             | U                                                                                         |  |  | 0.13                                                                                      | U |  | 0.12                                                                                      | U |  | 1.4                                                                                       | U | J | 0.11                                                                                      | U |  | 0.13                                                                                      | U |  | 17                                                                                        | U |  | 3.6                                                                                       | U |  | 13                                                                                        | U |  |
| bis(2-Ethylhexyl) phthalate                                                                                                           | 117-81-7  | 120     | 1,800                                                          | 3,600                                                                          | 0.057                                                                                            | U                                                                                         |  |  | 0.065                                                                                     | U |  | 0.059                                                                                     | U |  | 0.69                                                                                      | U |   | 0.054                                                                                     | U |  | 0.067                                                                                     | U |  | 8.3                                                                                       | U |  | 1.8                                                                                       | U |  | 6.7                                                                                       | U |  |
| Butyl benzyl phthalate                                                                                                                | 85-68-7   | 910     | 180,000                                                        | 17,000                                                                         | 0.057                                                                                            | U                                                                                         |  |  | 0.065                                                                                     | U |  | 0.059                                                                                     | U |  | 0.69                                                                                      | U |   | 0.054                                                                                     | U |  | 0.067                                                                                     | U |  | 8.3                                                                                       | U |  | 1.8                                                                                       | U |  | 6.7                                                                                       | U |  |
| Chlorobenzilate                                                                                                                       | 510-15-6  | 16      | 91                                                             | 0.027                                                                          | 0.38                                                                                             | U                                                                                         |  |  | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Chrysene                                                                                                                              | 218-01-9  | 210     | 2900                                                           | 150                                                                            | 0.0077                                                                                           | U                                                                                         |  |  | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.092                                                                                     | U |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | 1.1                                                                                       | U |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Diallate                                                                                                                              | 2303-16-4 | 28      | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |  |  | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Dibenz(a,h)anthracene                                                                                                                 | 53-70-3   | 0.21    | 2.9                                                            | 1.4                                                                            | 0.0077                                                                                           | U                                                                                         |  |  | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.092                                                                                     | U |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | 1.1                                                                                       | U |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Dibenzofuran                                                                                                                          | 132-64-9  | 1,000   | 2,000                                                          | 11                                                                             | 0.057                                                                                            | U                                                                                         |  |  | 0.065                                                                                     | U |  | 0.059                                                                                     | U |  | 0.69                                                                                      | U |   | 0.054                                                                                     | U |  | 0.067                                                                                     | U |  | 8.3                                                                                       | U |  | 1.8                                                                                       | U |  | 6.7                                                                                       | U |  |
| Diethyl phthalate                                                                                                                     | 84-66-2   | 490,000 | 700,000                                                        | 450                                                                            | 0.057                                                                                            | U                                                                                         |  |  | 0.065                                                                                     | U |  | 0.059                                                                                     | U |  | 0.69                                                                                      | U |   | 0.054                                                                                     | U |  | 0.067                                                                                     | U |  | 8.3                                                                                       | U |  | 1.8                                                                                       | U |  | 6.7                                                                                       | U |  |
| Dimethoate                                                                                                                            | 60-51-5   | 120     | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |  |  | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Dimethyl phthalate                                                                                                                    | 131-11-3  | NS      | 1,000,000                                                      | 2,000                                                                          | 0.057                                                                                            | U                                                                                         |  |  | 0.065                                                                                     | U |  | 0.059                                                                                     | U |  | 0.69                                                                                      | U |   | 0.054                                                                                     | U |  | 0.067                                                                                     | U |  | 8.3                                                                                       | U |  | 1.8                                                                                       | U |  | 6.7                                                                                       | U |  |
| Di-n-butyl phthalate                                                                                                                  | 84-74-2   | 62,000  | 88,000                                                         | 5,000                                                                          | 0.057                                                                                            | U                                                                                         |  |  | 0.065                                                                                     | U |  | 0.059                                                                                     | U |  | 0.69                                                                                      | U |   | 0.054                                                                                     | U |  | 0.067                                                                                     | U |  | 8.3                                                                                       | U |  | 1.8                                                                                       | U |  | 6.7                                                                                       | U |  |
| Di-n-octyl phthalate                                                                                                                  | 117-84-0  | NS      | NS                                                             | NS                                                                             | 0.057                                                                                            | U                                                                                         |  |  | 0.065                                                                                     | U |  | 0.059                                                                                     | U |  | 0.69                                                                                      | U |   | 0.054                                                                                     | U |  | 0.067                                                                                     | U |  | 8.3                                                                                       | U |  | 1.8                                                                                       | U |  | 6.7                                                                                       | U |  |
| Diphenylamine                                                                                                                         | 122-39-4  | 15,000  | 22,000                                                         | 25                                                                             | 0.11                                                                                             | U                                                                                         |  |  | 0.13                                                                                      | U |  | 0.12                                                                                      | U |  | 1.1                                                                                       | J |   | 0.11                                                                                      | U |  | 1.2                                                                                       |   |  | 47                                                                                        |   |  | 6.8                                                                                       |   |  | 13                                                                                        | U |  |
| Disulfoton                                                                                                                            | 298-04-4  | 25      | 35                                                             | 0.064                                                                          | 0.38                                                                                             | U                                                                                         |  |  | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Ethyl methanesulfonate                                                                                                                | 62-50-0   | NS      | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |  |  | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U | J | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Famphur                                                                                                                               | 52-85-7   | NS      | NS                                                             | NS                                                                             | 3.8                                                                                              | U                                                                                         |  |  | 4.3                                                                                       | U |  | 3.9                                                                                       | U |  | 45                                                                                        | U |   | 3.6                                                                                       | U |  | 4.4                                                                                       | U |  | 550                                                                                       | U |  | 120                                                                                       | U |  | 440                                                                                       | U |  |
| Fluoranthene                                                                                                                          | 206-44-0  | 22,000  | 30,000                                                         | 6,300                                                                          | 0.0077                                                                                           | U                                                                                         |  |  | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.32                                                                                      |   |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | 1.1                                                                                       | U |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Fluorene                                                                                                                              | 86-73-7   | 22,000  | 33,000                                                         | 78                                                                             | 0.0077                                                                                           | U                                                                                         |  |  | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.092                                                                                     | U |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | 1.1                                                                                       | U |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Hexachlorobenzene                                                                                                                     | 118-74-1  | 1.1     | 15                                                             | 2.2                                                                            | 0.0077                                                                                           | U                                                                                         |  |  | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.092                                                                                     | U |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | 1.1                                                                                       | U |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Hexachlorobutadiene                                                                                                                   | 87-68-3   | 22      | 320                                                            | 1.9                                                                            | 0.057                                                                                            | U                                                                                         |  |  | 0.065                                                                                     | U |  | 0.059                                                                                     | U |  | 0.69                                                                                      | U |   | 0.054                                                                                     | U |  | 0.067                                                                                     | U |  | 8.3                                                                                       | U |  | 1.8                                                                                       | U |  | 6.7                                                                                       | U |  |
| Hexachlorocyclopentadiene                                                                                                             | 77-47-4   | 3,700   | 5,200                                                          | 400                                                                            | 0.38                                                                                             | U                                                                                         |  |  | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Hexachloroethane                                                                                                                      | 67-72-1   | 120     | 880                                                            | 0.36                                                                           | 0.057                                                                                            | U                                                                                         |  |  | 0.065                                                                                     | U |  | 0.059                                                                                     | U |  | 0.69                                                                                      | U |   | 0.054                                                                                     | U |  | 0.067                                                                                     | U |  | 8.3                                                                                       | U |  | 1.8                                                                                       | U |  | 6.7                                                                                       | U |  |
| Hexachloropropene                                                                                                                     | 1888-71-7 | NS      | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |  |  | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Indeno(1,2,3-cd)pyrene                                                                                                                | 193-39-5  | 2.1     | 29                                                             | 13                                                                             | 0.0077                                                                                           | U                                                                                         |  |  | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.092                                                                                     | U |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | 1.1                                                                                       | U |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Isodrin                                                                                                                               | 465-73-6  | NS      | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |  |  | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Isophorone                                                                                                                            | 78-59-1   | 1,800   | 26,000                                                         | 0.42                                                                           | 0.057                                                                                            | U                                                                                         |  |  | 0.065                                                                                     | U |  | 0.059                                                                                     | U |  | 0.69                                                                                      | U |   | 0.054                                                                                     | U |  | 0.067                                                                                     | U |  | 8.3                                                                                       | U |  | 1.8                                                                                       | U |  | 6.7                                                                                       | U |  |

Notes:  
1. NS denotes No Standard for the Chemical  
2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level  
3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level  
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Laboratory Data Qualifiers (LQ)  
U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers (DV)  
B - Not detected substantially above the level reported in the laboratory or field blanks  
J - Analyte is present. Reported value may not be accurate or precise.  
K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.  
L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.  
R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample.  
Supporting data is necessary to confirm.

TABLE 25  
AOC 6 Soil Sample Results for Semivolatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit:<br>Chemical Name |            | CAS RN  | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC6-01<br>AOC6-01-1.5<br>A9G160162007<br>07/15/2009<br>1.5-2<br>mg/Kg<br>Result/RL LQ DV |   |       | AOC6-02<br>AOC6-02-1.5<br>A9G160162005<br>07/15/2009<br>1.5-2<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-03<br>AOC6-03-1.0<br>A9G160162008<br>07/15/2009<br>1-1.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-04<br>AOC6-04-1.5<br>A9G160162004<br>07/15/2009<br>1.5-2<br>mg/Kg<br>Result/RL LQ DV |   |   | AOC6-05<br>AOC6-05-2.0<br>A9G160162010<br>07/15/2009<br>2-2.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-06<br>AOC6-06-5.0<br>A9G160162006<br>07/15/2009<br>5-5.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-07<br>AOC6-07-2.0<br>A9G160162003<br>07/15/2009<br>2-2.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-08<br>AOC6-08-6.5<br>A9G160162002<br>07/15/2009<br>6.5-7<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-09<br>AOC6-09-6.5<br>A9G150150010<br>07/14/2009<br>6.5-7<br>mg/Kg<br>Result/RL LQ DV |   |  |
|---------------------------------------------------------------------------------------------------------------------------------------|------------|---------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---|-------|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|---|---|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|---|--|
| Isosafrole                                                                                                                            | 120-58-1   | NS      | NS                                                             | NS                                                                             | NS                                                                                               | 0.38                                                                                      | U |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Methapyrilene                                                                                                                         | 91-80-5    | NS      | NS                                                             | NS                                                                             | NS                                                                                               | 0.38                                                                                      | U |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Methyl methanesulfonate                                                                                                               | 66-27-3    | 17      | NS                                                             | NS                                                                             | NS                                                                                               | 0.38                                                                                      | U |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U | J | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Methyl parathion                                                                                                                      | 298-00-0   | 150     | 220                                                            | 0.085                                                                          | 0.38                                                                                             | U                                                                                         |   |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Naphthalene                                                                                                                           | 91-20-3    | 18      | 190                                                            | 0.32                                                                           | 0.01                                                                                             |                                                                                           |   |       | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.092                                                                                     | U |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | <u>5.2</u>                                                                                |   |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Nitrobenzene                                                                                                                          | 98-95-3    | 24      | 110                                                            | 0.022                                                                          | 0.11                                                                                             | U                                                                                         |   |       | 0.13                                                                                      | U |  | 0.12                                                                                      | U |  | 1.4                                                                                       | U |   | 0.11                                                                                      | U |  | 0.13                                                                                      | U |  | 17                                                                                        | U |  | 3.6                                                                                       | U |  | 13                                                                                        | U |  |
| N-Nitrosodiethylamine                                                                                                                 | 55-18-5    | 0.011   | 0.16                                                           | 0.0000023                                                                      | 0.11                                                                                             | U                                                                                         |   |       | 0.13                                                                                      | U |  | 0.12                                                                                      | U |  | 1.4                                                                                       | U |   | 0.11                                                                                      | U |  | 0.13                                                                                      | U |  | 17                                                                                        | U |  | 3.6                                                                                       | U |  | 13                                                                                        | U |  |
| N-Nitrosodimethylamine                                                                                                                | 62-75-9    | 0.034   | 0.48                                                           | 0.0000057                                                                      | 0.11                                                                                             | U                                                                                         |   |       | 0.13                                                                                      | U |  | 0.12                                                                                      | U |  | 1.4                                                                                       | U |   | 0.11                                                                                      | U |  | 0.13                                                                                      | U |  | 17                                                                                        | U |  | 3.6                                                                                       | U |  | 13                                                                                        | U |  |
| N-Nitrosodi-n-butylamine                                                                                                              | 924-16-3   | 0.40    | 0.62                                                           | 0.000029                                                                       | 0.11                                                                                             | U                                                                                         |   |       | 0.13                                                                                      | U |  | 0.12                                                                                      | U |  | 1.4                                                                                       | U |   | 0.11                                                                                      | U |  | 0.13                                                                                      | U |  | 17                                                                                        | U |  | 3.6                                                                                       | U |  | 13                                                                                        | U |  |
| N-Nitrosodi-n-propylamine                                                                                                             | 621-64-7   | 0.25    | 3.5                                                            | 0.000048                                                                       | 0.057                                                                                            | U                                                                                         |   |       | 0.065                                                                                     | U |  | 0.059                                                                                     | U |  | 0.69                                                                                      | U | J | 0.054                                                                                     | U |  | 0.067                                                                                     | U |  | 8.3                                                                                       | U |  | 1.8                                                                                       | U |  | 6.7                                                                                       | U |  |
| N-Nitrosodiphenylamine                                                                                                                | 86-30-6    | 350     | 5,000                                                          | 0.76                                                                           | 0.057                                                                                            | U                                                                                         |   |       | 0.065                                                                                     | U |  | 0.059                                                                                     | U |  | <u>1.1</u>                                                                                |   | J | 0.054                                                                                     | U |  | <u>1.2</u>                                                                                |   |  | <u>47</u>                                                                                 |   |  | <u>6.8</u>                                                                                |   |  | 6.7                                                                                       | U |  |
| N-Nitrosomethylethylamine                                                                                                             | 10595-95-6 | 0.078   | 1.1                                                            | 0.000021                                                                       | 0.11                                                                                             | U                                                                                         |   |       | 0.13                                                                                      | U |  | 0.12                                                                                      | U |  | 1.4                                                                                       | U |   | 0.11                                                                                      | U |  | 0.13                                                                                      | U |  | 17                                                                                        | U |  | 3.6                                                                                       | U |  | 13                                                                                        | U |  |
| N-Nitrosomorpholine                                                                                                                   | 59-89-2    | 0.26    | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |   |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| N-Nitrosopiperidine                                                                                                                   | 100-75-4   | 0.18    | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |   |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| N-Nitrosopyrrolidine                                                                                                                  | 930-55-2   | 0.82    | 12                                                             | 0.00033                                                                        | 0.057                                                                                            | U                                                                                         |   |       | 0.065                                                                                     | U |  | 0.059                                                                                     | U |  | 0.69                                                                                      | U | J | 0.054                                                                                     | U |  | 0.067                                                                                     | U |  | 8.3                                                                                       | U |  | 1.8                                                                                       | U |  | 6.7                                                                                       | U |  |
| O,O,O-Triethyl phosphorothioate                                                                                                       | 126-68-1   | NS      | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |   |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| o-Toluidine                                                                                                                           | 95-53-4    | 9.6     | 100                                                            | 0.0057                                                                         | 0.38                                                                                             | U                                                                                         |   |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U | J | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Parathion                                                                                                                             | 56-38-2    | 3,700   | 5,300                                                          | 10                                                                             | 0.38                                                                                             | U                                                                                         |   |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| p-Dimethylaminoazobenzene                                                                                                             | 60-11-7    | 0.37    | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |   |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Pentachlorobenzene                                                                                                                    | 608-93-5   | 490     | 700                                                            | 20                                                                             | 0.11                                                                                             | U                                                                                         |   | 0.019 | J                                                                                         |   |  | 0.12                                                                                      | U |  | 1.4                                                                                       | U |   | 0.11                                                                                      | U |  | 0.13                                                                                      | U |  | 17                                                                                        | U |  | 3.6                                                                                       | U |  | 13                                                                                        | U |  |
| Pentachloroethane                                                                                                                     | 76-01-7    | 19      | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |   |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U | J | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Pentachloronitrobenzene                                                                                                               | 82-68-8    | 6.6     | 95                                                             | 0.083                                                                          | 0.38                                                                                             | U                                                                                         |   |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Pentachlorophenol                                                                                                                     | 87-86-5    | 9       | 110                                                            | 0.028                                                                          | 0.17                                                                                             | U                                                                                         |   |       | 0.2                                                                                       | U |  | 0.18                                                                                      | U |  | 2.1                                                                                       | U |   | 0.16                                                                                      | U |  | 0.2                                                                                       | U |  | 25                                                                                        | U |  | 5.3                                                                                       | U |  | 20                                                                                        | U |  |
| Phenacetin                                                                                                                            | 62-44-2    | 780     | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |   |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Phenanthrene                                                                                                                          | 85-01-8    | NS      | 410,000                                                        | 1,500                                                                          | 0.015                                                                                            |                                                                                           |   |       | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.13                                                                                      |   |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | 1.1                                                                                       | U |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Phenol                                                                                                                                | 108-95-2   | 180,000 | 260,000                                                        | 56                                                                             | 0.057                                                                                            | U                                                                                         |   |       | 0.065                                                                                     | U |  | 0.059                                                                                     | U |  | 0.69                                                                                      | U | J | 0.054                                                                                     | U |  | 0.067                                                                                     | U |  | 8.3                                                                                       | U |  | 1.8                                                                                       | U |  | 6.7                                                                                       | U |  |
| Phorate                                                                                                                               | 298-02-2   | 120     | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |   |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| p-Phenylene diamine                                                                                                                   | 106-50-3   | 120,000 | 170,000                                                        | 48                                                                             | 0.76                                                                                             | U                                                                                         |   |       | 0.86                                                                                      | U |  | 0.77                                                                                      | U |  | 9.1                                                                                       | U |   | 0.71                                                                                      | U |  | 0.89                                                                                      | U |  | 110                                                                                       | U |  | 24                                                                                        | U |  | 89                                                                                        | U |  |
| Pronamide                                                                                                                             | 23950-58-5 | 46,000  | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |   |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Pyrene                                                                                                                                | 129-00-0   | 17,000  | 54,000                                                         | 500                                                                            | 0.0077                                                                                           | U                                                                                         |   |       | 0.0087                                                                                    | U |  | 0.0078                                                                                    | U |  | 0.23                                                                                      |   |   | 0.0072                                                                                    | U |  | 0.009                                                                                     | U |  | 1.1                                                                                       | U |  | 0.24                                                                                      | U |  | 0.89                                                                                      | U |  |
| Pyridine                                                                                                                              | 110-86-1   | 1,000   | 880                                                            | 0.19                                                                           | 0.11                                                                                             | U                                                                                         |   |       | 0.13                                                                                      | U |  | 0.12                                                                                      | U |  | 1.4                                                                                       | U | J | 0.11                                                                                      | U |  | 0.13                                                                                      | U |  | 17                                                                                        | U |  | 3.6                                                                                       | U |  | 13                                                                                        | U |  |
| Safrole                                                                                                                               | 94-59-7    | 7.8     | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |   |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Tetraethyldithiopyrophosphate                                                                                                         | 3689-24-5  | 310     | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |   |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |
| Thionazin                                                                                                                             | 297-97-2   | NS      | NS                                                             | NS                                                                             | 0.38                                                                                             | U                                                                                         |   |       | 0.43                                                                                      | U |  | 0.39                                                                                      | U |  | 4.5                                                                                       | U |   | 0.36                                                                                      | U |  | 0.44                                                                                      | U |  | 55                                                                                        | U |  | 12                                                                                        | U |  | 44                                                                                        | U |  |

Notes:

1. NS denotes No Standard for the Chemical
2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Laboratory Data Qualifiers (LQ)

U - Target analyte not detected above listed Reporting Limit

J - Estimated result. Result is less than Reporting Limit

B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers (DV)

B - Not detected substantially above the level reported in the laboratory or field blanks

J - Analyte is present. Reported value may not be accurate or precise.

K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.

L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.

R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample. Supporting data is necessary to confirm.

TABLE 25  
AOC 6 Soil Sample Results for Semivolatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit:<br>Chemical Name |           | CAS RN | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC6-10<br>AOC6-10-2.5<br>A9G150150009<br>07/14/2009<br>2.5-3<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-11<br>AOC6-11-2.0<br>A9G150150007<br>07/14/2009<br>2-2.5<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-12<br>AOC6-12-8.0<br>A9G150150008<br>07/14/2009<br>8-8.5<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-13<br>AOC6-13-3.0<br>A9G150150006<br>07/14/2009<br>3-3.5<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-14<br>AOC6-14-2.0<br>A9G150161010<br>07/13/2009<br>2-2.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-15<br>AOC6-15-6.0<br>A9G150161011<br>07/13/2009<br>6-6.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-16<br>AOC6-16-2.0<br>A9G150161012<br>07/13/2009<br>2-2.5<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-22<br>AOC6-22-1.0<br>A9G160162009<br>07/15/2009<br>1-1.5<br>mg/Kg<br>Result/RL LQ DV |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------|--------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|--|--|
| 1,2,4,5-Tetrachlorobenzene                                                                                                            | 95-94-3   | 180    | 260                                                            | 0.66                                                                           | 16 U                                                                                             |                                                                                           |  |  | 3.9 U                                                                                     |  |  | 3.2 U                                                                                     |  |  | 2.7 U                                                                                     |  |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |  |  | 0.12 U                                                                                    |  |  |
| 1,2,4-Trichlorobenzene                                                                                                                | 120-82-1  | 99     | 20,000                                                         | 4.9                                                                            | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |   |  | 0.032 J                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| 1,2-Dichlorobenzene                                                                                                                   | 95-50-1   | 9,800  | 150                                                            | 12                                                                             | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   | J |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| 1,2-Diphenylhydrazine                                                                                                                 | 122-66-7  | 2.2    | 31                                                             | 0.0026                                                                         | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | <u>2.3</u>                                                                                |  |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| 1,3,5-Trinitrobenzene                                                                                                                 | 99-35-4   | 27,000 | 26,000                                                         | 52                                                                             | 260 U                                                                                            |                                                                                           |  |  | 62 U                                                                                      |  |  | 51 U                                                                                      |  |  | 44 U                                                                                      |  |  | 2 U                                                                                       |   |  | 2 U                                                                                       |   |  | 2 U                                                                                       |  |  | 1.9 U                                                                                     |  |  |
| 1,3-Dichlorobenzene                                                                                                                   | 541-73-1  | NS     | 130                                                            | 12                                                                             | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   | J |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| 1,3-Dinitrobenzene                                                                                                                    | 99-65-0   | 62     | 88                                                             | 0.037                                                                          | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| 1,4-Dichlorobenzene                                                                                                                   | 106-46-7  | 12     | 45                                                             | 2.2                                                                            | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   | J |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| 1,4-Naphthoquinone                                                                                                                    | 130-15-4  | NS     | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| 1-Naphthylamine                                                                                                                       | 134-32-7  | NS     | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| 2,3,4,6-Tetrachlorophenol                                                                                                             | 58-90-2   | 18,000 | 26,000                                                         | 92                                                                             | 16 U                                                                                             |                                                                                           |  |  | 3.9 U                                                                                     |  |  | 3.2 U                                                                                     |  |  | 2.7 U                                                                                     |  |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |  |  | 0.12 U                                                                                    |  |  |
| 2,4,5-Trichlorophenol                                                                                                                 | 95-95-4   | 62,000 | 88,000                                                         | 250                                                                            | 24 U                                                                                             |                                                                                           |  |  | 5.8 U                                                                                     |  |  | 4.8 U                                                                                     |  |  | 4.1 U                                                                                     |  |  | 0.19 U                                                                                    |   |  | 0.19 U                                                                                    |   |  | 0.19 U                                                                                    |  |  | 0.18 U                                                                                    |  |  |
| 2,4,6-Trichlorophenol                                                                                                                 | 88-06-2   | 160    | 2,200                                                          | 0.12                                                                           | 24 U                                                                                             |                                                                                           |  |  | 5.8 U                                                                                     |  |  | 4.8 U                                                                                     |  |  | 4.1 U                                                                                     |  |  | 0.19 U                                                                                    |   |  | 0.19 U                                                                                    |   |  | 0.19 U                                                                                    |  |  | 0.18 U                                                                                    |  |  |
| 2,4-Dichlorophenol                                                                                                                    | 120-83-2  | 1,800  | 2,600                                                          | 1.1                                                                            | 24 U                                                                                             |                                                                                           |  |  | 5.8 U                                                                                     |  |  | 4.8 U                                                                                     |  |  | 4.1 U                                                                                     |  |  | 0.19 U                                                                                    |   |  | 0.19 U                                                                                    |   |  | 0.19 U                                                                                    |  |  | 0.18 U                                                                                    |  |  |
| 2,4-Dimethylphenol                                                                                                                    | 105-67-9  | 12,000 | 18,000                                                         | 9                                                                              | 24 U                                                                                             |                                                                                           |  |  | 5.8 U                                                                                     |  |  | 4.8 U                                                                                     |  |  | 4.1 U                                                                                     |  |  | 0.19 U                                                                                    |   |  | 0.19 U                                                                                    |   |  | 0.19 U                                                                                    |  |  | 0.18 U                                                                                    |  |  |
| 2,4-Dinitrophenol                                                                                                                     | 51-28-5   | 1,200  | 1,800                                                          | 0.29                                                                           | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| 2,4-Dinitrotoluene                                                                                                                    | 121-14-2  | 5.5    | 1,800                                                          | 0.57                                                                           | 33 U                                                                                             |                                                                                           |  |  | 7.8 U                                                                                     |  |  | 6.4 U                                                                                     |  |  | 5.5 U                                                                                     |  |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |  |  | 0.24 U                                                                                    |  |  |
| 2,6-Dichlorophenol                                                                                                                    | 87-65-0   | NS     | NS                                                             | NS                                                                             | 33 U                                                                                             |                                                                                           |  |  | 7.8 U                                                                                     |  |  | 6.4 U                                                                                     |  |  | 5.5 U                                                                                     |  |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |  |  | 0.24 U                                                                                    |  |  |
| 2,6-Dinitrotoluene                                                                                                                    | 606-20-2  | 620    | 890                                                            | 0.25                                                                           | 33 U                                                                                             |                                                                                           |  |  | 7.8 U                                                                                     |  |  | 6.4 U                                                                                     |  |  | 5.5 U                                                                                     |  |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |  |  | 0.24 U                                                                                    |  |  |
| 2-Acetylaminofluorene                                                                                                                 | 53-96-3   | 0.45   | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| 2-Chloronaphthalene                                                                                                                   | 91-58-7   | 82,000 | 27,000                                                         | 32                                                                             | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| 2-Chlorophenol                                                                                                                        | 95-57-8   | 5,100  | 240                                                            | 0.61                                                                           | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   | J |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| 2-Methylnaphthalene                                                                                                                   | 91-57-6   | 4,100  | NS                                                             | NS                                                                             | 1.1 U                                                                                            |                                                                                           |  |  | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |  |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  |   |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| 2-Methylphenol                                                                                                                        | 95-48-7   | 31,000 | 44,000                                                         | 14                                                                             | 33 U                                                                                             |                                                                                           |  |  | 7.8 U                                                                                     |  |  | 6.4 U                                                                                     |  |  | 5.5 U                                                                                     |  |  | 0.25 U                                                                                    | J |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |  |  | 0.24 U                                                                                    |  |  |
| 2-Naphthylamine                                                                                                                       | 91-59-8   | 0.96   | NS                                                             | NS                                                                             | 33 U                                                                                             |                                                                                           |  |  | 7.8 U                                                                                     |  |  | 6.4 U                                                                                     |  |  | 5.5 U                                                                                     |  |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |  |  | 0.24 U                                                                                    |  |  |
| 2-Nitroaniline                                                                                                                        | 88-74-4   | 6,000  | 2,600                                                          | 0.56                                                                           | 33 U                                                                                             |                                                                                           |  |  | 7.8 U                                                                                     |  |  | 6.4 U                                                                                     |  |  | 5.5 U                                                                                     |  |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |  |  | 0.24 U                                                                                    |  |  |
| 2-Nitrophenol                                                                                                                         | 88-75-5   | NS     | NS                                                             | NS                                                                             | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| 2-Picoline                                                                                                                            | 109-06-8  | NS     | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    | J |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| 2-sec-Butyl-4,6-dinitrophenol                                                                                                         | 88-85-7   | 620    | 880                                                            | 0.033                                                                          | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| 3,3'-Dichlorobenzidine                                                                                                                | 91-94-1   | 3.8    | 55                                                             | 0.0049                                                                         | 16 U                                                                                             |                                                                                           |  |  | 3.9 U                                                                                     |  |  | 3.2 U                                                                                     |  |  | 2.7 U                                                                                     |  |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |  |  | 0.12 U                                                                                    |  |  |
| 3,3'-Dimethoxybenzidine                                                                                                               | 119-90-4  | 120    | 1,800                                                          | 0.3                                                                            | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| 3,3'-Dimethylbenzidine                                                                                                                | 119-93-7  | 0.16   | 11                                                             | 0.0089                                                                         | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| 3-Methylcholanthrene                                                                                                                  | 56-49-5   | 0.078  | NS                                                             | NS                                                                             | 33 U                                                                                             |                                                                                           |  |  | 7.8 U                                                                                     |  |  | 6.4 U                                                                                     |  |  | 5.5 U                                                                                     |  |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    | J |  | 0.25 U                                                                                    |  |  | 0.24 U                                                                                    |  |  |
| 3-Methylphenol                                                                                                                        | 108-39-4  | 31,000 | 44,000                                                         | 39                                                                             | 33 U                                                                                             |                                                                                           |  |  | 7.8 U                                                                                     |  |  | 6.4 U                                                                                     |  |  | 5.5 U                                                                                     |  |  | 0.25 U                                                                                    | J |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |  |  | 0.24 U                                                                                    |  |  |
| 3-Nitroaniline                                                                                                                        | 99-09-2   | NS     | NS                                                             | NS                                                                             | 33 U                                                                                             |                                                                                           |  |  | 7.8 U                                                                                     |  |  | 6.4 U                                                                                     |  |  | 5.5 U                                                                                     |  |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |  |  | 0.24 U                                                                                    |  |  |
| 4,6-Dinitro-2-methylphenol                                                                                                            | 534-52-1  | 62     | NS                                                             | NS                                                                             | 24 U                                                                                             |                                                                                           |  |  | 5.8 U                                                                                     |  |  | 4.8 U                                                                                     |  |  | 4.1 U                                                                                     |  |  | 0.19 U                                                                                    |   |  | 0.19 U                                                                                    |   |  | 0.19 U                                                                                    |  |  | 0.18 U                                                                                    |  |  |
| 4-Aminobiphenyl                                                                                                                       | 92-67-1   | 0.082  | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| 4-Bromophenyl phenyl ether                                                                                                            | 101-55-3  | NS     | NS                                                             | NS                                                                             | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| 4-Chloro-3-methylphenol                                                                                                               | 59-50-7   | 62,000 | NS                                                             | NS                                                                             | 24 U                                                                                             |                                                                                           |  |  | 5.8 U                                                                                     |  |  | 4.8 U                                                                                     |  |  | 4.1 U                                                                                     |  |  | 0.19 U                                                                                    |   |  | 0.19 U                                                                                    |   |  | 0.19 U                                                                                    |  |  | 0.18 U                                                                                    |  |  |
| 4-Chloroaniline                                                                                                                       | 106-47-8  | 8.6    | 3500                                                           | 0.97                                                                           | 24 U                                                                                             |                                                                                           |  |  | 5.8 U                                                                                     |  |  | 4.8 U                                                                                     |  |  | 4.1 U                                                                                     |  |  | 0.19 U                                                                                    |   |  | 0.19 U                                                                                    |   |  | 0.19 U                                                                                    |  |  | 0.18 U                                                                                    |  |  |
| 4-Chlorophenyl phenyl ether                                                                                                           | 7005-72-3 | NS     | NS                                                             | NS                                                                             | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| 4-Methylphenol                                                                                                                        | 106-44-5  | 3100   | 4400                                                           | 3.9                                                                            | 33 U                                                                                             |                                                                                           |  |  | 7.8 U                                                                                     |  |  | 6.4 U                                                                                     |  |  | 5.5 U                                                                                     |  |  | 0.25 U                                                                                    | J |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |  |  | 0.24 U                                                                                    |  |  |
| 4-Nitroaniline                                                                                                                        | 100-01-6  | 86     | NS                                                             | NS                                                                             | 33 U                                                                                             |                                                                                           |  |  | 7.8 U                                                                                     |  |  | 6.4 U                                                                                     |  |  | 5.5 U                                                                                     |  |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |   |  | 0.25 U                                                                                    |  |  | 0.24 U                                                                                    |  |  |
| 4-Nitrophenol                                                                                                                         | 100-02-7  | NS     | 7000                                                           | 1.7                                                                            | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| 4-Nitroquinoline-1-oxide                                                                                                              | 56-57-5   | NS     | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |

Notes:  
1. NS denotes No Standard for the Chemical  
2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level  
3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level  
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Laboratory Data Qualifiers (LQ)  
U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers (DV)  
B - Not detected substantially above the level reported in the laboratory or field blanks  
J - Analyte is present. Reported value may not be accurate or precise.  
K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.  
L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.  
R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample.  
Supporting data is necessary to confirm.



TABLE 25  
AOC 6 Soil Sample Results for Semivolatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit:<br>Chemical Name |           | CAS RN  | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC6-10<br>AOC6-10-2.5<br>A9G150150009<br>07/14/2009<br>2.5-3<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-11<br>AOC6-11-2.0<br>A9G150150007<br>07/14/2009<br>2-2.5<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-12<br>AOC6-12-8.0<br>A9G150150008<br>07/14/2009<br>8-8.5<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-13<br>AOC6-13-3.0<br>A9G150150006<br>07/14/2009<br>3-3.5<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-14<br>AOC6-14-2.0<br>A9G150161010<br>07/13/2009<br>2-2.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-15<br>AOC6-15-6.0<br>A9G150161011<br>07/13/2009<br>6-6.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-16<br>AOC6-16-2.0<br>A9G150161012<br>07/13/2009<br>2-2.5<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-22<br>AOC6-22-1.0<br>A9G160162009<br>07/15/2009<br>1-1.5<br>mg/Kg<br>Result/RL LQ DV |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------|---------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|--|--|
| 5-Nitro-o-toluidine                                                                                                                   | 99-55-8   | 52      | 750                                                            | 0.015                                                                          | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| 7,12-Dimethylbenz(a)anthracene                                                                                                        | 57-97-6   | 0.0062  | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    | J |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| a,a-Dimethylphenethylamine                                                                                                            | 122-09-8  | NS      | NS                                                             | NS                                                                             | 110 U                                                                                            |                                                                                           |  |  | 26 U                                                                                      |  |  | 21 U                                                                                      |  |  | 18 U                                                                                      |  |  | 0.83 U                                                                                    |   |  | 0.83 U                                                                                    |   |  | 0.84 U                                                                                    |  |  | 0.78 U                                                                                    |  |  |
| Acenaphthene                                                                                                                          | 83-32-9   | 33,000  | 38,000                                                         | 73                                                                             | 1.1 U                                                                                            |                                                                                           |  |  | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |  |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  |   |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Acenaphthylene                                                                                                                        | 208-96-8  | NS      | 44,000                                                         | 91                                                                             | 1.1 U                                                                                            |                                                                                           |  |  | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |  |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  |   |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Acetophenone                                                                                                                          | 98-86-2   | 100,000 | 25,000                                                         | 3.2                                                                            | 16 U                                                                                             |                                                                                           |  |  | 3.9 U                                                                                     |  |  | 3.2 U                                                                                     |  |  | 2.7 U                                                                                     |  |  | 0.13 U                                                                                    | J |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |  |  | 0.12 U                                                                                    |  |  |
| Aniline                                                                                                                               | 62-53-3   | 300     | 4,300                                                          | 0.14                                                                           | <u>120</u>                                                                                       |                                                                                           |  |  | <u>1.6</u> J                                                                              |  |  | <u>18</u>                                                                                 |  |  | <u>15</u>                                                                                 |  |  | 0.42 U                                                                                    | J |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Anthracene                                                                                                                            | 120-12-7  | 170,000 | 390,000                                                        | 1700                                                                           | 1.1 U                                                                                            |                                                                                           |  |  | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |  |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  |   |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Aramite                                                                                                                               | 140-57-8  | 69      | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Benzidine                                                                                                                             | 92-87-5   | 0.0075  | 0.11                                                           | 0.000033                                                                       | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Benzo(a)anthracene                                                                                                                    | 56-55-3   | 2.1     | 29                                                             | 1.5                                                                            | 1.1 U                                                                                            |                                                                                           |  |  | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |  |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  |   |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Benzo(a)pyrene                                                                                                                        | 50-32-8   | 0.21    | 2.9                                                            | 8.2                                                                            | 1.1 U                                                                                            |                                                                                           |  |  | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |  |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  | J |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Benzo(b)fluoranthene                                                                                                                  | 205-99-2  | 2.1     | 29                                                             | 4.5                                                                            | 1.1 U                                                                                            |                                                                                           |  |  | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |  |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  | J |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Benzo(ghi)perylene                                                                                                                    | 191-24-2  | NS      | 23,000                                                         | 120,000                                                                        | 1.1 U                                                                                            |                                                                                           |  |  | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |  |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  | J |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Benzo(k)fluoranthene                                                                                                                  | 207-08-9  | 21      | 290                                                            | 45                                                                             | 1.1 U                                                                                            |                                                                                           |  |  | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |  |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  | J |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Benzyl alcohol                                                                                                                        | 100-51-6  | 62,000  | 440,000                                                        | 150                                                                            | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    | J |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| bis(2-Chloro-1-methylethyl) ether                                                                                                     | 108-60-1  | 22      | 81                                                             | 0.0018                                                                         | 16 U                                                                                             |                                                                                           |  |  | 3.9 U                                                                                     |  |  | 3.2 U                                                                                     |  |  | 2.7 U                                                                                     |  |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |  |  | 0.12 U                                                                                    |  |  |
| bis(2-Chloroethoxy)methane                                                                                                            | 111-91-1  | 1,800   | NS                                                             | NS                                                                             | 16 U                                                                                             |                                                                                           |  |  | 3.9 U                                                                                     |  |  | 3.2 U                                                                                     |  |  | 2.7 U                                                                                     |  |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |  |  | 0.12 U                                                                                    |  |  |
| bis(2-Chloroethyl) ether                                                                                                              | 111-44-4  | 1.0     | 6                                                              | 0.56                                                                           | 16 U                                                                                             |                                                                                           |  |  | 3.9 U                                                                                     |  |  | 3.2 U                                                                                     |  |  | 2.7 U                                                                                     |  |  | 0.13 U                                                                                    | J |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |  |  | 0.12 U                                                                                    |  |  |
| bis(2-Ethylhexyl) phthalate                                                                                                           | 117-81-7  | 120     | 1,800                                                          | 3,600                                                                          | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| Butyl benzyl phthalate                                                                                                                | 85-68-7   | 910     | 180,000                                                        | 17,000                                                                         | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| Chlorobenzilate                                                                                                                       | 510-15-6  | 16      | 91                                                             | 0.027                                                                          | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Chrysene                                                                                                                              | 218-01-9  | 210     | 2900                                                           | 150                                                                            | 1.1 U                                                                                            |                                                                                           |  |  | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |  |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  |   |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Diallate                                                                                                                              | 2303-16-4 | 28      | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Dibenz(a,h)anthracene                                                                                                                 | 53-70-3   | 0.21    | 2.9                                                            | 1.4                                                                            | 1.1 U                                                                                            |                                                                                           |  |  | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |  |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  | J |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Dibenzofuran                                                                                                                          | 132-64-9  | 1,000   | 2,000                                                          | 11                                                                             | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| Diethyl phthalate                                                                                                                     | 84-66-2   | 490,000 | 700,000                                                        | 450                                                                            | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| Dimethoate                                                                                                                            | 60-51-5   | 120     | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Dimethyl phthalate                                                                                                                    | 131-11-3  | NS      | 1,000,000                                                      | 2,000                                                                          | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| Di-n-butyl phthalate                                                                                                                  | 84-74-2   | 62,000  | 88,000                                                         | 5,000                                                                          | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| Di-n-octyl phthalate                                                                                                                  | 117-84-0  | NS      | NS                                                             | NS                                                                             | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   | J |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| Diphenylamine                                                                                                                         | 122-39-4  | 15,000  | 22,000                                                         | 25                                                                             | 16 U                                                                                             |                                                                                           |  |  | <u>44</u>                                                                                 |  |  | 2.8 J                                                                                     |  |  | 1.4 J                                                                                     |  |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |  |  | 0.12 U                                                                                    |  |  |
| Disulfoton                                                                                                                            | 298-04-4  | 25      | 35                                                             | 0.064                                                                          | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Ethyl methanesulfonate                                                                                                                | 62-50-0   | NS      | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    | J |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Famphur                                                                                                                               | 52-85-7   | NS      | NS                                                             | NS                                                                             | 540 U                                                                                            |                                                                                           |  |  | 130 U                                                                                     |  |  | 110 U                                                                                     |  |  | 91 U                                                                                      |  |  | 4.2 U                                                                                     |   |  | 4.1 U                                                                                     |   |  | 4.2 U                                                                                     |  |  | 3.9 U                                                                                     |  |  |
| Fluoranthene                                                                                                                          | 206-44-0  | 22,000  | 30,000                                                         | 6,300                                                                          | 1.8                                                                                              |                                                                                           |  |  | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |  |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  |   |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Fluorene                                                                                                                              | 86-73-7   | 22,000  | 33,000                                                         | 78                                                                             | 1.1 U                                                                                            |                                                                                           |  |  | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |  |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  |   |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Hexachlorobenzene                                                                                                                     | 118-74-1  | 1.1     | 15                                                             | 2.2                                                                            | 1.1 U                                                                                            |                                                                                           |  |  | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |  |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  |   |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Hexachlorobutadiene                                                                                                                   | 87-68-3   | 22      | 320                                                            | 1.9                                                                            | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| Hexachlorocyclopentadiene                                                                                                             | 77-47-4   | 3,700   | 5,200                                                          | 400                                                                            | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Hexachloroethane                                                                                                                      | 67-72-1   | 120     | 880                                                            | 0.36                                                                           | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| Hexachloropropene                                                                                                                     | 1888-71-7 | NS      | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Indeno(1,2,3-cd)pyrene                                                                                                                | 193-39-5  | 2.1     | 29                                                             | 13                                                                             | 1.1 U                                                                                            |                                                                                           |  |  | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |  |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  | J |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Isodrin                                                                                                                               | 465-73-6  | NS      | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |  | 13 U                                                                                      |  |  | 11 U                                                                                      |  |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |   |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Isophorone                                                                                                                            | 78-59-1   | 1,800   | 26,000                                                         | 0.42                                                                           | 8.1 U                                                                                            |                                                                                           |  |  | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |  |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |   |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |

Notes:  
1. NS denotes No Standard for the Chemical  
2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level  
3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level  
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Laboratory Data Qualifiers (LQ)  
U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers (DV)  
B - Not detected substantially above the level reported in the laboratory or field blanks  
J - Analyte is present. Reported value may not be accurate or precise.  
K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.  
L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.  
R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample.  
Supporting data is necessary to confirm.

TABLE 25  
AOC 6 Soil Sample Results for Semivolatile Organic Compounds  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit:<br>Chemical Name |            | CAS RN  | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC6-10<br>AOC6-10-2.5<br>A9G150150009<br>07/14/2009<br>2.5-3<br>mg/Kg<br>Result/RL LQ DV |  |           | AOC6-11<br>AOC6-11-2.0<br>A9G150150007<br>07/14/2009<br>2-2.5<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-12<br>AOC6-12-8.0<br>A9G150150008<br>07/14/2009<br>8-8.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-13<br>AOC6-13-3.0<br>A9G150150006<br>07/14/2009<br>3-3.5<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-14<br>AOC6-14-2.0<br>A9G150161010<br>07/13/2009<br>2-2.5<br>mg/Kg<br>Result/RL LQ DV |   |  | AOC6-15<br>AOC6-15-6.0<br>A9G150161011<br>07/13/2009<br>6-6.5<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-16<br>AOC6-16-2.0<br>A9G150161012<br>07/13/2009<br>2-2.5<br>mg/Kg<br>Result/RL LQ DV |  |  | AOC6-22<br>AOC6-22-1.0<br>A9G160162009<br>07/15/2009<br>1-1.5<br>mg/Kg<br>Result/RL LQ DV |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------|------------|---------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--|-----------|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|---|--|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------------------------------|--|--|
| Isosafrole                                                                                                                            | 120-58-1   | NS      | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Methapyrilene                                                                                                                         | 91-80-5    | NS      | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Methyl methanesulfonate                                                                                                               | 66-27-3    | 17      | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    | J |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Methyl parathion                                                                                                                      | 298-00-0   | 150     | 220                                                            | 0.085                                                                          | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Naphthalene                                                                                                                           | 91-20-3    | 18      | 190                                                            | 0.32                                                                           | 1.1 U                                                                                            |                                                                                           |  |           | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |   |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  |  |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Nitrobenzene                                                                                                                          | 98-95-3    | 24      | 110                                                            | 0.022                                                                          | 16 U                                                                                             |                                                                                           |  |           | 3.9 U                                                                                     |  |  | 3.2 U                                                                                     |   |  | 2.7 U                                                                                     |  |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |  |  | 0.13 U                                                                                    |  |  | 0.12 U                                                                                    |  |  |
| N-Nitrosodiethylamine                                                                                                                 | 55-18-5    | 0.011   | 0.16                                                           | 0.000023                                                                       | 16 U                                                                                             |                                                                                           |  |           | 3.9 U                                                                                     |  |  | 3.2 U                                                                                     |   |  | 2.7 U                                                                                     |  |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |  |  | 0.13 U                                                                                    |  |  | 0.12 U                                                                                    |  |  |
| N-Nitrosodimethylamine                                                                                                                | 62-75-9    | 0.034   | 0.48                                                           | 0.000057                                                                       | 16 U                                                                                             |                                                                                           |  |           | 3.9 U                                                                                     |  |  | 3.2 U                                                                                     |   |  | 2.7 U                                                                                     |  |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |  |  | 0.13 U                                                                                    |  |  | 0.12 U                                                                                    |  |  |
| N-Nitrosodi-n-butylamine                                                                                                              | 924-16-3   | 0.40    | 0.62                                                           | 0.000029                                                                       | 16 U                                                                                             |                                                                                           |  |           | 3.9 U                                                                                     |  |  | 3.2 U                                                                                     |   |  | 2.7 U                                                                                     |  |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |  |  | 0.13 U                                                                                    |  |  | 0.12 U                                                                                    |  |  |
| N-Nitrosodi-n-propylamine                                                                                                             | 621-64-7   | 0.25    | 3.5                                                            | 0.000048                                                                       | 8.1 U                                                                                            |                                                                                           |  |           | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |   |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   | J |  | 0.063 U                                                                                   |  |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| N-Nitrosodiphenylamine                                                                                                                | 86-30-6    | 350     | 5,000                                                          | 0.76                                                                           | 8.1 U                                                                                            |                                                                                           |  | <u>44</u> |                                                                                           |  |  | <u>2.8</u>                                                                                |   |  | <u>1.4</u>                                                                                |  |  | 0.063 U                                                                                   | J |  | 0.063 U                                                                                   |  |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| N-Nitrosomethylethylamine                                                                                                             | 10595-95-6 | 0.078   | 1.1                                                            | 0.000021                                                                       | 16 U                                                                                             |                                                                                           |  |           | 3.9 U                                                                                     |  |  | 3.2 U                                                                                     |   |  | 2.7 U                                                                                     |  |  | 0.13 U                                                                                    | J |  | 0.13 U                                                                                    |  |  | 0.13 U                                                                                    |  |  | 0.12 U                                                                                    |  |  |
| N-Nitrosomorpholine                                                                                                                   | 59-89-2    | 0.26    | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    | J |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| N-Nitrosopiperidine                                                                                                                   | 100-75-4   | 0.18    | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| N-Nitrosopyrrolidine                                                                                                                  | 930-55-2   | 0.82    | 12                                                             | 0.00033                                                                        | 8.1 U                                                                                            |                                                                                           |  |           | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |   |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   | J |  | 0.063 U                                                                                   |  |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| O,O,O-Triethyl phosphorothioate                                                                                                       | 126-68-1   | NS      | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| o-Toluidine                                                                                                                           | 95-53-4    | 9.6     | 100                                                            | 0.0057                                                                         | <u>13</u>                                                                                        | J                                                                                         |  |           | 13 U                                                                                      |  |  | <u>0.78</u>                                                                               | J |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    | J |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Parathion                                                                                                                             | 56-38-2    | 3,700   | 5,300                                                          | 10                                                                             | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| p-Dimethylaminoazobenzene                                                                                                             | 60-11-7    | 0.37    | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Pentachlorobenzene                                                                                                                    | 608-93-5   | 490     | 700                                                            | 20                                                                             | 16 U                                                                                             |                                                                                           |  |           | 3.9 U                                                                                     |  |  | 3.2 U                                                                                     |   |  | 2.7 U                                                                                     |  |  | 0.13 U                                                                                    |   |  | 0.13 U                                                                                    |  |  | 0.13 U                                                                                    |  |  | 0.12 U                                                                                    |  |  |
| Pentachloroethane                                                                                                                     | 76-01-7    | 19      | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    | J |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Pentachloronitrobenzene                                                                                                               | 82-68-8    | 6.6     | 95                                                             | 0.083                                                                          | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Pentachlorophenol                                                                                                                     | 87-86-5    | 9       | 110                                                            | 0.028                                                                          | 24 U                                                                                             |                                                                                           |  |           | 5.8 U                                                                                     |  |  | 4.8 U                                                                                     |   |  | 4.1 U                                                                                     |  |  | 0.19 U                                                                                    |   |  | 0.19 U                                                                                    |  |  | 0.19 U                                                                                    |  |  | 0.18 U                                                                                    |  |  |
| Phenacetin                                                                                                                            | 62-44-2    | 780     | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Phenanthrene                                                                                                                          | 85-01-8    | NS      | 410,000                                                        | 1,500                                                                          | 1.1 U                                                                                            |                                                                                           |  |           | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |   |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  |  |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Phenol                                                                                                                                | 108-95-2   | 180,000 | 260,000                                                        | 56                                                                             | 8.1 U                                                                                            |                                                                                           |  |           | 1.9 U                                                                                     |  |  | 1.6 U                                                                                     |   |  | 1.4 U                                                                                     |  |  | 0.063 U                                                                                   | J |  | 0.063 U                                                                                   |  |  | 0.063 U                                                                                   |  |  | 0.059 U                                                                                   |  |  |
| Phorate                                                                                                                               | 298-02-2   | 120     | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| p-Phenylene diamine                                                                                                                   | 106-50-3   | 120,000 | 170,000                                                        | 48                                                                             | 110 U                                                                                            |                                                                                           |  |           | 26 U                                                                                      |  |  | 21 U                                                                                      |   |  | 18 U                                                                                      |  |  | 0.83 U                                                                                    |   |  | 0.83 U                                                                                    |  |  | 0.84 U                                                                                    |  |  | 0.78 U                                                                                    |  |  |
| Pronamide                                                                                                                             | 23950-58-5 | 46,000  | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Pyrene                                                                                                                                | 129-00-0   | 17,000  | 54,000                                                         | 500                                                                            | 1.5                                                                                              |                                                                                           |  |           | 0.26 U                                                                                    |  |  | 0.21 U                                                                                    |   |  | 0.18 U                                                                                    |  |  | 0.0084 U                                                                                  |   |  | 0.0084 U                                                                                  |  |  | 0.0085 U                                                                                  |  |  | 0.0079 U                                                                                  |  |  |
| Pyridine                                                                                                                              | 110-86-1   | 1,000   | 880                                                            | 0.19                                                                           | 16 U                                                                                             |                                                                                           |  |           | 3.9 U                                                                                     |  |  | 3.2 U                                                                                     |   |  | 2.7 U                                                                                     |  |  | 0.13 U                                                                                    | J |  | 0.13 U                                                                                    |  |  | 0.13 U                                                                                    |  |  | 0.12 U                                                                                    |  |  |
| Safrole                                                                                                                               | 94-59-7    | 7.8     | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Tetraethyldithiopyrophosphate                                                                                                         | 3689-24-5  | 310     | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |
| Thionazin                                                                                                                             | 297-97-2   | NS      | NS                                                             | NS                                                                             | 54 U                                                                                             |                                                                                           |  |           | 13 U                                                                                      |  |  | 11 U                                                                                      |   |  | 9.1 U                                                                                     |  |  | 0.42 U                                                                                    |   |  | 0.41 U                                                                                    |  |  | 0.42 U                                                                                    |  |  | 0.39 U                                                                                    |  |  |

Notes:  
1. NS denotes No Standard for the Chemical  
2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level  
3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level  
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Laboratory Data Qualifiers (LQ)  
U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers (DV)  
B - Not detected substantially above the level reported in the laboratory or field blanks  
J - Analyte is present. Reported value may not be accurate or precise.  
K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.  
L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.  
R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample. Supporting data is necessary to confirm.

Table 26  
AOC 6 Soil Sample Results for PCBs and Metals  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

Table 26

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit: |            | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC6-01<br>AOC6-01-1.5<br>A9G160162007<br>07/15/2009<br>1.5-2<br>mg/Kg<br>Result/RL LQ DV |    |    | AOC6-02<br>AOC6-02-1.5<br>A9G160162005<br>07/15/2009<br>1.5-2<br>mg/Kg<br>Result/RL Q DV |   |    | AOC6-03<br>AOC6-03-1.0<br>A9G160162008<br>07/15/2009<br>1-1.5<br>mg/Kg<br>Result/RL Q DV |   |    | AOC6-04<br>AOC6-04-1.5<br>A9G160162004<br>07/15/2009<br>1.5-2<br>mg/Kg<br>Result/RL Q DV |   |    | AOC6-05<br>AOC6-05-2.0<br>A9G160162010<br>07/15/2009<br>2-2.5<br>mg/Kg<br>Result/RL Q DV |   |    | AOC6-06<br>AOC6-06-5.0<br>A9G160162006<br>07/15/2009<br>5-5.5<br>mg/Kg<br>Result/RL Q DV |   |    | AOC6-07<br>AOC6-07-2.0<br>A9G160162003<br>07/15/2009<br>2-2.5<br>mg/Kg<br>Result/RL Q DV |    |    | AOC6-08<br>AOC6-08-6.5<br>A9G160162002<br>07/15/2009<br>6.5-7<br>mg/Kg<br>Result/RL Q DV |    |    | AOC6-09<br>AOC6-09-6.5<br>A9G150150010<br>07/14/2009<br>6.5-7<br>mg/Kg<br>Result/RL Q DV |    |    |
|----------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|----|----|------------------------------------------------------------------------------------------|---|----|------------------------------------------------------------------------------------------|---|----|------------------------------------------------------------------------------------------|---|----|------------------------------------------------------------------------------------------|---|----|------------------------------------------------------------------------------------------|---|----|------------------------------------------------------------------------------------------|----|----|------------------------------------------------------------------------------------------|----|----|------------------------------------------------------------------------------------------|----|----|
| Chemical Name                                                                                                        | CAS RN     |                                                                |                                                                                |                                                                                                  | Result/RL                                                                                 | LQ | DV | Result/RL                                                                                | Q | DV | Result/RL                                                                                | Q | DV | Result/RL                                                                                | Q | DV | Result/RL                                                                                | Q | DV | Result/RL                                                                                | Q | DV | Result/RL                                                                                | Q  | DV | Result/RL                                                                                | Q  | DV | Result/RL                                                                                | Q  | DV |
| Polychlorinated Biphenyls                                                                                            |            |                                                                |                                                                                |                                                                                                  |                                                                                           |    |    |                                                                                          |   |    |                                                                                          |   |    |                                                                                          |   |    |                                                                                          |   |    |                                                                                          |   |    |                                                                                          |    |    |                                                                                          |    |    |                                                                                          |    |    |
| Total PCBs                                                                                                           | 1336-36-3  | NS                                                             | 10                                                                             | 0.9                                                                                              | 0.19                                                                                      | U  |    | 0.043                                                                                    | U |    | 0.039                                                                                    | U |    | 0.23                                                                                     | U |    | 0.036                                                                                    | U |    | 0.044                                                                                    | U |    | <u>8.9</u>                                                                               |    |    | 0.047                                                                                    | U  |    | 0.044                                                                                    | U  |    |
| Aroclor 1016                                                                                                         | 12674-11-2 | 21                                                             | 50                                                                             | 1.3                                                                                              | 0.19                                                                                      | U  |    | 0.043                                                                                    | U |    | 0.039                                                                                    | U |    | 0.23                                                                                     | U |    | 0.036                                                                                    | U |    | 0.044                                                                                    | U |    | 0.73                                                                                     | U  |    | 0.047                                                                                    | U  |    | 0.044                                                                                    | U  |    |
| Aroclor 1221                                                                                                         | 11104-28-2 | 0.54                                                           | 10                                                                             | 0.0023                                                                                           | 0.19                                                                                      | U  |    | 0.043                                                                                    | U |    | 0.039                                                                                    | U |    | 0.23                                                                                     | U |    | 0.036                                                                                    | U |    | 0.044                                                                                    | U |    | 0.73                                                                                     | U  |    | 0.047                                                                                    | U  |    | 0.044                                                                                    | U  |    |
| Aroclor 1232                                                                                                         | 11141-16-5 | 0.54                                                           | 10                                                                             | 0.0023                                                                                           | 0.19                                                                                      | U  |    | 0.043                                                                                    | U |    | 0.039                                                                                    | U |    | 0.23                                                                                     | U |    | 0.036                                                                                    | U |    | 0.044                                                                                    | U |    | 0.73                                                                                     | U  |    | 0.047                                                                                    | U  |    | 0.044                                                                                    | U  |    |
| Aroclor 1242                                                                                                         | 53469-21-9 | 0.74                                                           | 10                                                                             | 0.045                                                                                            | 0.19                                                                                      | U  |    | 0.043                                                                                    | U |    | 0.039                                                                                    | U |    | 0.23                                                                                     | U |    | 0.036                                                                                    | U |    | 0.044                                                                                    | U |    | 0.73                                                                                     | U  |    | 0.047                                                                                    | U  |    | 0.044                                                                                    | U  |    |
| Aroclor 1248                                                                                                         | 12672-29-6 | 0.74                                                           | 10                                                                             | 0.059                                                                                            | 0.19                                                                                      | U  |    | 0.043                                                                                    | U |    | 0.039                                                                                    | U |    | 0.23                                                                                     | U |    | 0.036                                                                                    | U |    | 0.044                                                                                    | U |    | 0.73                                                                                     | U  |    | 0.047                                                                                    | U  |    | 0.044                                                                                    | U  |    |
| Aroclor 1254                                                                                                         | 11097-69-1 | 0.74                                                           | 10                                                                             | 0.27                                                                                             | 0.19                                                                                      | U  |    | 0.043                                                                                    | U |    | 0.039                                                                                    | U |    | 0.23                                                                                     | U |    | 0.036                                                                                    | U |    | 0.044                                                                                    | U |    | <u>8.9</u>                                                                               |    |    | 0.047                                                                                    | U  |    | 0.044                                                                                    | U  |    |
| Aroclor 1260                                                                                                         | 11096-82-5 | 0.74                                                           | 10                                                                             | 0.39                                                                                             | 0.19                                                                                      | U  |    | 0.043                                                                                    | U |    | 0.039                                                                                    | U |    | 0.23                                                                                     | U |    | 0.036                                                                                    | U |    | 0.044                                                                                    | U |    | 0.73                                                                                     | U  |    | 0.047                                                                                    | U  |    | 0.044                                                                                    | U  |    |
| Metals                                                                                                               |            |                                                                |                                                                                |                                                                                                  |                                                                                           |    |    |                                                                                          |   |    |                                                                                          |   |    |                                                                                          |   |    |                                                                                          |   |    |                                                                                          |   |    |                                                                                          |    |    |                                                                                          |    |    |                                                                                          |    |    |
| Antimony                                                                                                             | 7440-36-0  | 410                                                            | 820                                                                            | 5.4                                                                                              | 0.095                                                                                     | J  | L  | 1.8                                                                                      |   | L  | 0.14                                                                                     | J | L  | <u>14.4</u>                                                                              |   | L  | 0.12                                                                                     | J | L  | 0.16                                                                                     | J | L  | <u>9.6</u>                                                                               | JG | L  | 4                                                                                        | JG | L  | 0.052                                                                                    | J  | L  |
| Arsenic                                                                                                              | 7440-38-2  | 1.6                                                            | 27                                                                             | 5.8                                                                                              | 1.9                                                                                       | B  | L  | <u>10.8</u>                                                                              | B | L  | <u>7.1</u>                                                                               | B | L  | <u>9.2</u>                                                                               | B | L  | <u>6.2</u>                                                                               | B | L  | 1.3                                                                                      | B | L  | <u>9.9</u>                                                                               | B  | L  | 3                                                                                        | B  | L  | 2.3                                                                                      |    | J  |
| Barium                                                                                                               | 7440-39-3  | 190,000                                                        | 290,000                                                                        | 1,600                                                                                            | 30.1                                                                                      | B  |    | <u>5,880</u>                                                                             | B |    | 167                                                                                      | B | J  | <u>7,430</u>                                                                             | B |    | 39.7                                                                                     | B |    | 180                                                                                      | B |    | <u>6,450</u>                                                                             | B  |    | 133                                                                                      | B  |    | 219                                                                                      | B  |    |
| Beryllium                                                                                                            | 7440-41-7  | 2,000                                                          | 3,700                                                                          | 63                                                                                               | 0.26                                                                                      |    |    | 1.3                                                                                      |   |    | 0.65                                                                                     |   |    | 0.92                                                                                     |   |    | 0.46                                                                                     |   |    | 1.2                                                                                      |   |    | 0.65                                                                                     |    |    | 0.52                                                                                     |    |    | 1.5                                                                                      |    |    |
| Cadmium                                                                                                              | 7440-43-9  | 800                                                            | 1,000                                                                          | 7.5                                                                                              | 0.031                                                                                     | J  |    | 0.021                                                                                    | J |    | 0.033                                                                                    | J |    | 0.36                                                                                     |   |    | 0.029                                                                                    | J |    | 0.044                                                                                    | J |    | 2.7                                                                                      |    |    | 0.24                                                                                     |    |    | 0.034                                                                                    | J  |    |
| Chromium                                                                                                             | 7440-47-3  | NS                                                             | NS                                                                             | NS                                                                                               | 2.5                                                                                       | B  | L  | 12.8                                                                                     | B | L  | 13.4                                                                                     | B | L  | 49.6                                                                                     | B | L  | 7.5                                                                                      | B | L  | 13.9                                                                                     | B | L  | 53.8                                                                                     | B  | L  | 19.2                                                                                     | B  | L  | 12.3                                                                                     | B  |    |
| Cobalt                                                                                                               | 7440-48-4  | 300                                                            | 19,000                                                                         | 660                                                                                              | 3.9                                                                                       |    |    | 20.7                                                                                     |   |    | 5.7                                                                                      |   |    | 13.6                                                                                     |   |    | 5.2                                                                                      |   |    | 3.1                                                                                      |   |    | 16.6                                                                                     |    |    | 6.6                                                                                      |    |    | 2.9                                                                                      |    |    |
| Copper                                                                                                               | 7440-50-8  | 41,000                                                         | 82,000                                                                         | 1,000                                                                                            | 3.2                                                                                       | B  |    | 47.6                                                                                     | B |    | 11.9                                                                                     | B |    | 371                                                                                      | B |    | 8.2                                                                                      | B |    | 15.5                                                                                     | B |    | 210                                                                                      | B  |    | 72.1                                                                                     | B  |    | 16.6                                                                                     | B  | B  |
| Lead                                                                                                                 | 7439-92-1  | 800                                                            | 1,000                                                                          | 270                                                                                              | 3.7                                                                                       | B  |    | 58.3                                                                                     | B |    | 10.6                                                                                     | B |    | <u>391</u>                                                                               | B |    | 7.3                                                                                      | B |    | 14.2                                                                                     | B |    | <u>394</u>                                                                               | B  |    | <u>449</u>                                                                               | B  |    | 11.5                                                                                     | B  | L  |
| Mercury                                                                                                              | 7439-97-6  | 34                                                             | 610                                                                            | 2.1                                                                                              | 0.11                                                                                      | U  |    | 0.24                                                                                     |   |    | 0.12                                                                                     | U |    | 0.16                                                                                     |   |    | 0.11                                                                                     | U |    | 0.04                                                                                     | J |    | 0.098                                                                                    | J  |    | 0.14                                                                                     | U  |    | 0.025                                                                                    | J  |    |
| Nickel                                                                                                               | 7440-02-0  | 20,000                                                         | 41,000                                                                         | 130                                                                                              | 9.4                                                                                       | B  | L  | 74.8                                                                                     | B | L  | 14.5                                                                                     | B | L  | 80                                                                                       | B | L  | 10.2                                                                                     | B | L  | 12                                                                                       | B | L  | <u>203</u>                                                                               | B  | L  | 28.6                                                                                     | B  | L  | 10.6                                                                                     | B  |    |
| Selenium                                                                                                             | 7782-49-2  | 5,100                                                          | 10,000                                                                         | 5.2                                                                                              | 0.17                                                                                      | J  | L  | 0.6                                                                                      | J | L  | 0.43                                                                                     | J | L  | 0.91                                                                                     |   | L  | 0.35                                                                                     | J | L  | 0.72                                                                                     |   | L  | 0.8                                                                                      | J  | L  | 1.1                                                                                      |    | L  | 1.7                                                                                      |    |    |
| Silver                                                                                                               | 7440-22-4  | 5,100                                                          | 10,000                                                                         | 31                                                                                               | 0.11                                                                                      | U  |    | 0.16                                                                                     |   | K  | 0.12                                                                                     | U |    | 0.13                                                                                     | J | K  | 0.11                                                                                     | U |    | 0.057                                                                                    | J | K  | 0.15                                                                                     | J  | K  | 0.12                                                                                     | J  | K  | 0.057                                                                                    | J  |    |
| Thallium                                                                                                             | 7440-28-0  | NS                                                             | 160                                                                            | 2.8                                                                                              | 0.02                                                                                      | J  | L  | 0.13                                                                                     | U | L  | 0.096                                                                                    | J | L  | 0.12                                                                                     | J | L  | 0.043                                                                                    | J | L  | 0.17                                                                                     | L |    | 5.5                                                                                      | UG | L  | 2.7                                                                                      | JG | L  | 0.16                                                                                     | B  |    |
| Tin                                                                                                                  | 7440-31-5  | 610,000                                                        | 1,000,000                                                                      | 110,000                                                                                          | 0.23                                                                                      | J  | L  | 0.65                                                                                     | J | L  | 0.39                                                                                     | J | L  | 6.4                                                                                      | J | L  | 0.25                                                                                     | J | L  | 0.69                                                                                     | J | L  | 12.3                                                                                     | JG | L  | 713                                                                                      | UG |    | 0.47                                                                                     | JB | B  |
| Vanadium                                                                                                             | 7440-62-2  | 72                                                             | 2,000                                                                          | 730                                                                                              | 2.9                                                                                       |    | L  | 17.8                                                                                     |   | L  | 20.5                                                                                     |   | L  | 27                                                                                       |   | L  | 12.8                                                                                     |   | L  | 16.1                                                                                     |   | L  | 223                                                                                      |    | L  | 21.7                                                                                     |    | L  | 14                                                                                       |    | L  |
| Zinc                                                                                                                 | 7440-66-6  | 310,000                                                        | 610,000                                                                        | 14,000                                                                                           | 17.4                                                                                      | B  | L  | 58.3                                                                                     | B | L  | 41.8                                                                                     | B | L  | 318                                                                                      | J | L  | 27                                                                                       | B | L  | 39.5                                                                                     | B | L  | 1150                                                                                     | B  | L  | 43.5                                                                                     | B  | L  | 25.2                                                                                     | B  |    |

- Notes:
1. NS denotes No Standard for the Chemical
  2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
  3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
  4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Labatory Data Qualifiers (LQ)

U - Target analyte not detected above listed Reporting Limit

J - Estimated result. Result is less than Reporting Limit

B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

G - Elevated Reporting Limit due to matrix interference

Data Validation Qualifiers (DV)

B - Not detected substantially above the level reported in the laboratory or field blanks

J - Analyte is present. Reported value may not be accurate or precise.

K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.

L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.

Table 26  
AOC 6 Soil Sample Results for PCBs and Metals  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth (feet below ground surface):<br>Concentration Unit: |            | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC6-10<br>AOC6-10-2.5<br>A9G150150009<br>07/14/2009<br>2.5-3<br>mg/Kg<br>Result/RL Q DV |   |   | AOC6-11<br>AOC6-11-2.0<br>A9G150150007<br>07/14/2009<br>2-2.5<br>mg/Kg<br>Result/RL Q DV |    |   | AOC6-12<br>AOC6-12-8.0<br>A9G150150008<br>07/14/2009<br>8-8.5<br>mg/Kg<br>Result/RL Q DV |    |   | AOC6-13<br>AOC6-13-3.0<br>A9G150150006<br>07/14/2009<br>3-3.5<br>mg/Kg<br>Result/RL Q DV |    |   | AOC6-14<br>AOC6-14-2.0<br>A9G150161010<br>07/13/2009<br>2-2.5<br>mg/Kg<br>Result/RL Q DV |    |   | AOC6-15<br>AOC6-15-6.0<br>A9G150161011<br>07/13/2009<br>6-6.5<br>mg/Kg<br>Result/RL Q DV |    |   | AOC6-16<br>AOC6-16-2.0<br>A9G150161012<br>07/13/2009<br>2-2.5<br>mg/Kg<br>Result/RL Q DV |    |   | AOC6-03<br>AOC6-22-1.0<br>A9G160162009<br>07/15/2009<br>1-1.5<br>mg/Kg<br>Result/RL Q DV |   |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|---|---|------------------------------------------------------------------------------------------|----|---|------------------------------------------------------------------------------------------|----|---|------------------------------------------------------------------------------------------|----|---|------------------------------------------------------------------------------------------|----|---|------------------------------------------------------------------------------------------|----|---|------------------------------------------------------------------------------------------|----|---|------------------------------------------------------------------------------------------|---|---|
| Chemical Name                                                                                                                                    | CAS RN     |                                                                |                                                                                |                                                                                                  |                                                                                          |   |   |                                                                                          |    |   |                                                                                          |    |   |                                                                                          |    |   |                                                                                          |    |   |                                                                                          |    |   |                                                                                          |    |   |                                                                                          |   |   |
| Polychlorinated Biphenyls                                                                                                                        |            |                                                                |                                                                                |                                                                                                  |                                                                                          |   |   |                                                                                          |    |   |                                                                                          |    |   |                                                                                          |    |   |                                                                                          |    |   |                                                                                          |    |   |                                                                                          |    |   |                                                                                          |   |   |
| Total PCBs                                                                                                                                       | 1336-36-3  | NS                                                             | 10                                                                             | 0.9                                                                                              | 0.091                                                                                    |   |   | 0.064                                                                                    | U  |   | 0.053                                                                                    | U  |   | 0.06                                                                                     |    |   | 0.042                                                                                    | U  |   | 0.041                                                                                    | U  |   | 0.042                                                                                    | U  |   | 0.039                                                                                    | U |   |
| Aroclor 1016                                                                                                                                     | 12674-11-2 | 21                                                             | 50                                                                             | 1.3                                                                                              | 0.043                                                                                    | U |   | 0.064                                                                                    | U  |   | 0.053                                                                                    | U  |   | 0.045                                                                                    | U  |   | 0.042                                                                                    | U  |   | 0.041                                                                                    | U  |   | 0.042                                                                                    | U  |   | 0.039                                                                                    | U |   |
| Aroclor 1221                                                                                                                                     | 11104-28-2 | 0.54                                                           | 10                                                                             | 0.0023                                                                                           | 0.043                                                                                    | U |   | 0.064                                                                                    | U  |   | 0.053                                                                                    | U  |   | 0.045                                                                                    | U  |   | 0.042                                                                                    | U  |   | 0.041                                                                                    | U  |   | 0.042                                                                                    | U  |   | 0.039                                                                                    | U |   |
| Aroclor 1232                                                                                                                                     | 11141-16-5 | 0.54                                                           | 10                                                                             | 0.0023                                                                                           | 0.043                                                                                    | U |   | 0.064                                                                                    | U  |   | 0.053                                                                                    | U  |   | 0.045                                                                                    | U  |   | 0.042                                                                                    | U  |   | 0.041                                                                                    | U  |   | 0.042                                                                                    | U  |   | 0.039                                                                                    | U |   |
| Aroclor 1242                                                                                                                                     | 53469-21-9 | 0.74                                                           | 10                                                                             | 0.045                                                                                            | <u>0.052</u>                                                                             |   |   | 0.064                                                                                    | U  |   | 0.053                                                                                    | U  |   | <u>0.06</u>                                                                              |    |   | 0.042                                                                                    | U  |   | 0.041                                                                                    | U  |   | 0.042                                                                                    | U  |   | 0.039                                                                                    | U |   |
| Aroclor 1248                                                                                                                                     | 12672-29-6 | 0.74                                                           | 10                                                                             | 0.059                                                                                            | 0.043                                                                                    | U |   | 0.064                                                                                    | U  |   | 0.053                                                                                    | U  |   | 0.045                                                                                    | U  |   | 0.042                                                                                    | U  |   | 0.041                                                                                    | U  |   | 0.042                                                                                    | U  |   | 0.039                                                                                    | U |   |
| Aroclor 1254                                                                                                                                     | 11097-69-1 | 0.74                                                           | 10                                                                             | 0.27                                                                                             | 0.039                                                                                    | J |   | 0.064                                                                                    | U  |   | 0.053                                                                                    | U  |   | 0.045                                                                                    | U  |   | 0.042                                                                                    | U  |   | 0.041                                                                                    | U  |   | 0.042                                                                                    | U  |   | 0.039                                                                                    | U |   |
| Aroclor 1260                                                                                                                                     | 11096-82-5 | 0.74                                                           | 10                                                                             | 0.39                                                                                             | 0.043                                                                                    | U |   | 0.064                                                                                    | U  |   | 0.053                                                                                    | U  |   | 0.045                                                                                    | U  |   | 0.042                                                                                    | U  |   | 0.041                                                                                    | U  |   | 0.042                                                                                    | U  |   | 0.039                                                                                    | U |   |
| Metals                                                                                                                                           |            |                                                                |                                                                                |                                                                                                  |                                                                                          |   |   |                                                                                          |    |   |                                                                                          |    |   |                                                                                          |    |   |                                                                                          |    |   |                                                                                          |    |   |                                                                                          |    |   |                                                                                          |   |   |
| Antimony                                                                                                                                         | 7440-36-0  | 410                                                            | 820                                                                            | 5.4                                                                                              | <u>6.2</u>                                                                               |   | L | 0.49                                                                                     |    | L | 0.26                                                                                     | J  | L | 0.27                                                                                     |    | L | 0.1                                                                                      | J  | L | 0.081                                                                                    | J  | L | 0.13                                                                                     | J  | L | 0.19                                                                                     | J | L |
| Arsenic                                                                                                                                          | 7440-38-2  | 1.6                                                            | 27                                                                             | 5.8                                                                                              | <u>21.9</u>                                                                              |   | J | 0.78                                                                                     | J  | J | 5.8                                                                                      |    | J | <u>6.5</u>                                                                               |    | J | <u>6</u>                                                                                 |    | J | 4                                                                                        |    | J | 5.8                                                                                      |    | J | <u>7</u>                                                                                 | B | L |
| Barium                                                                                                                                           | 7440-39-3  | 190,000                                                        | 290,000                                                                        | 1,600                                                                                            | 516                                                                                      | B |   | 32.2                                                                                     | B  |   | 289                                                                                      | B  |   | 124                                                                                      | B  |   | 143                                                                                      | B  |   | 151                                                                                      | B  |   | 97.5                                                                                     | B  |   | 275                                                                                      | B | J |
| Beryllium                                                                                                                                        | 7440-41-7  | 2,000                                                          | 3,700                                                                          | 63                                                                                               | 2.3                                                                                      |   |   | 0.14                                                                                     | J  |   | 1.7                                                                                      |    |   | 1.2                                                                                      |    |   | 1.2                                                                                      |    |   | 1.2                                                                                      |    |   | 0.5                                                                                      |    |   | 0.68                                                                                     |   |   |
| Cadmium                                                                                                                                          | 7440-43-9  | 800                                                            | 1,000                                                                          | 7.5                                                                                              | 1.1                                                                                      |   |   | 1.6                                                                                      |    |   | 0.46                                                                                     |    |   | 0.042                                                                                    | J  |   | 0.058                                                                                    | J  |   | 0.14                                                                                     |    |   | 0.018                                                                                    | J  |   | 0.041                                                                                    | J |   |
| Chromium                                                                                                                                         | 7440-47-3  | NS                                                             | NS                                                                             | NS                                                                                               | 40.2                                                                                     | B |   | 1.5                                                                                      | B  |   | 139                                                                                      | B  |   | 18.3                                                                                     | B  |   | 16.2                                                                                     | B  |   | 10.9                                                                                     | B  |   | 16.4                                                                                     | B  |   | 14.5                                                                                     | B | L |
| Cobalt                                                                                                                                           | 7440-48-4  | 300                                                            | 19,000                                                                         | 660                                                                                              | 17.4                                                                                     |   |   | 1                                                                                        |    |   | 16.7                                                                                     |    |   | 12.1                                                                                     |    |   | 12.7                                                                                     |    |   | 10.2                                                                                     |    |   | 5.2                                                                                      |    |   | 6.2                                                                                      |   |   |
| Copper                                                                                                                                           | 7440-50-8  | 41,000                                                         | 82,000                                                                         | 1,000                                                                                            | 304                                                                                      | B |   | 27.7                                                                                     | B  |   | 71.8                                                                                     | B  |   | 26.1                                                                                     | B  |   | 14.4                                                                                     | B  | B | 10                                                                                       | B  | B | 22                                                                                       | B  |   | 14.6                                                                                     | B |   |
| Lead                                                                                                                                             | 7439-92-1  | 800                                                            | 1,000                                                                          | 270                                                                                              | <u>353</u>                                                                               | B | L | <u>291</u>                                                                               | B  | L | 137                                                                                      | B  | L | 29.4                                                                                     | B  | L | 12.7                                                                                     | B  | L | 12.1                                                                                     | B  | L | 16.5                                                                                     | B  | L | 14.4                                                                                     | B |   |
| Mercury                                                                                                                                          | 7439-97-6  | 34                                                             | 610                                                                            | 2.1                                                                                              | 0.022                                                                                    | J |   | 0.19                                                                                     | U  |   | 0.14                                                                                     | J  |   | 0.043                                                                                    | J  |   | 0.023                                                                                    | J  |   | 0.13                                                                                     | U  |   | 0.13                                                                                     | U  |   | 0.019                                                                                    | J |   |
| Nickel                                                                                                                                           | 7440-02-0  | 20,000                                                         | 41,000                                                                         | 130                                                                                              | 65.2                                                                                     | B |   | 33.8                                                                                     | B  |   | 108                                                                                      | B  |   | 22.1                                                                                     | B  |   | 18.7                                                                                     | B  |   | 14.5                                                                                     | B  |   | 13.6                                                                                     | B  |   | 16.5                                                                                     | B | L |
| Selenium                                                                                                                                         | 7782-49-2  | 5,100                                                          | 10,000                                                                         | 5.2                                                                                              | 2.5                                                                                      |   |   | 0.97                                                                                     | U  |   | 2.1                                                                                      |    |   | 1.5                                                                                      |    |   | 1.7                                                                                      |    |   | 2                                                                                        |    |   | 0.68                                                                                     |    | K | 0.49                                                                                     | J | L |
| Silver                                                                                                                                           | 7440-22-4  | 5,100                                                          | 10,000                                                                         | 31                                                                                               | 0.15                                                                                     |   |   | 0.19                                                                                     | U  |   | 0.11                                                                                     | J  |   | 0.025                                                                                    | J  |   | 0.13                                                                                     | U  |   | 0.032                                                                                    | J  |   | 0.13                                                                                     | U  |   | 0.023                                                                                    | J | K |
| Thallium                                                                                                                                         | 7440-28-0  | NS                                                             | 160                                                                            | 2.8                                                                                              | 0.66                                                                                     | B |   | 0.044                                                                                    | JB | L | 0.3                                                                                      | B  |   | 0.19                                                                                     | B  |   | 0.17                                                                                     | B  |   | 0.13                                                                                     | B  |   | 0.16                                                                                     | B  |   | 0.11                                                                                     | J | L |
| Tin                                                                                                                                              | 7440-31-5  | 610,000                                                        | 1,000,000                                                                      | 110,000                                                                                          | 22.5                                                                                     | B |   | 6.2                                                                                      | JB |   | 7.2                                                                                      | JB |   | 0.86                                                                                     | JB | B | 0.57                                                                                     | JB | B | 0.41                                                                                     | JB | B | 0.59                                                                                     | JB | B | 0.49                                                                                     | J | L |
| Vanadium                                                                                                                                         | 7440-62-2  | 72                                                             | 2,000                                                                          | 730                                                                                              | 38                                                                                       |   | L | 1.1                                                                                      |    |   | 39                                                                                       |    | L | 20.1                                                                                     |    | L | 21.8                                                                                     |    | L | 15.4                                                                                     |    | L | 23.2                                                                                     |    |   | 21.4                                                                                     |   | L |
| Zinc                                                                                                                                             | 7440-66-6  | 310,000                                                        | 610,000                                                                        | 14,000                                                                                           | 286                                                                                      | B |   | 119                                                                                      | B  |   | 171                                                                                      | B  |   | 55.9                                                                                     | B  |   | 70.9                                                                                     | B  |   | 38.5                                                                                     | B  |   | 51.2                                                                                     | B  |   | 43.7                                                                                     | B | L |

- Notes:
1. NS denotes No Standard for the Chemical
  2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
  3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
  4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Labatory Data Qualifiers (LQ)

U - Target analyte not detected above listed Reporting Limit

J - Estimated result. Result is less than Reporting Limit

B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

G - Elevated Reporting Limit due to matrix interference

Data Validation Qualifiers (DV)

B - Not detected substantially above the level reported in the laboratory or field blanks

J - Analyte is present. Reported value may not be accurate or precise.

K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.

L - Analyte is present. Reported value may be biased low. Actual value is expected to be higher.

**Table 27**  
**AOC 6 Soil Sample Results for Total Petroleum Hydrocarbons**  
 RCRA Facility Investigation Phase II  
 Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:<br>Soil Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Sample Depth:<br>Concentration Unit:<br>Chemical Name | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/kg | WVDEP 60CSR3<br>Industrial Soil<br>De Minimis<br>Level<br>mg/kg | WVDEP 60CSR3<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/kg | AOC6-14<br>AOC6-14-2.0<br>A9G150161010<br>07/13/2009<br>2-2.5<br>mg/kg<br>Result/RL LQ DV | AOC6-15<br>AOC6-15-6.0<br>A9G150161011<br>07/13/2009<br>6-6.5<br>mg/kg<br>Result/RL LQ DV | AOC6-16<br>AOC6-16-2.0<br>A9G150161012<br>07/13/2009<br>2-2.5<br>mg/kg<br>Result/RL LQ DV |
|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| TPH (as Diesel Range Organics)                                                                                                        | NS                                                             | 8,300                                                           | 170                                                                               | 13 U                                                                                      | <u>180</u>                                                                                | 13 U                                                                                      |

Notes:

1. NS denotes No Standard for the Chemical
2. **Bolded** values exceed the WVDEP 60CSR3 Draft Supplemental Guidance on TPH for De Minimis Levels in Soil and Groundwater
3. Underlined values exceed the WVDEP 60CSR3 Draft Supplemental Guidance on TPH for De Minimis Levels in Soil and Groundwater
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Laboratory Data Qualifiers (LQ)

U - Target analyte not detected above listed Reporting Limit

J - Estimated result. Result is less than Reporting Limit

B - Method blank contamination. The associated method blank contains the target analyte at a reportable level

**Table 28**  
**AOC 6 Soil Sample Results for Ethylene Glycol**  
 RCRA Facility Investigation Phase II  
 Former BASF Huntington Works, Huntington, West Virginia

| Boring Location:      |          | EPA Industrial<br>Soil Screening<br>Level<br>Dec 2009<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Industrial Soil<br>De Minimis<br>Level<br>mg/Kg | WVDEP 60CSR3<br>Table 60-3B<br>Migration to<br>Ground Water<br>Soil De Minimis<br>Level<br>mg/Kg | AOC6-05     |    |    | AOC6-06     |    |    |
|-----------------------|----------|----------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------|----|----|-------------|----|----|
| Soil Sample ID:       |          |                                                                |                                                                                |                                                                                                  | AOC6-05-2.0 |    |    | AOC6-06-5.0 |    |    |
| Laboratory Sample ID: |          |                                                                |                                                                                |                                                                                                  | RSG0648-04  |    |    | RSG0648-03  |    |    |
| Sample Date:          |          |                                                                |                                                                                |                                                                                                  | 07/15/2009  |    |    | 07/15/2009  |    |    |
| Sample Depth:         |          |                                                                |                                                                                |                                                                                                  | 2-2.5       |    |    | 5-5.5       |    |    |
| Concentration Unit:   |          |                                                                |                                                                                |                                                                                                  | mg/Kg       |    |    | mg/Kg       |    |    |
| Chemical Name         |          | CAS RN                                                         |                                                                                |                                                                                                  | Result/RL   | LQ | DV | Result/RL   | LQ | DV |
| Ethylene Glycol       | 107-21-1 | 1,200,000                                                      | 1,000,000                                                                      | 300                                                                                              | 5.2         | U  |    | 6.6         | U  |    |

Notes:

1. NS denotes No Standard for the Chemical
2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level
3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Migration to Ground Water Soil De Minimis Level
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Industrial Soil De Minimis Level

Laboratory Data Qualifiers (LQ)

U - Target analyte not detected above listed Reporting Limit

J - Estimated result. Result is less than Reporting Limit

B - Method blank contamination. The associated method blank contains the target analyte at a reportable level

**Table 29**  
**AOC 6 Soil Sample Results for pH**  
 RCRA Facility Investigation Phase II  
 Former BASF Huntington Works, Huntington, West Virginia

|                     |             |             |             |             |             |             |             |             |             |             |             |
|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Boring Location:    | AOC6-01     | AOC6-02     | AOC6-03     | AOC6-04     | AOC6-05     | AOC6-06     | AOC6-09     | AOC6-10     | AOC6-11     | AOC6-12     | AOC6-13     |
| Soil Sample ID:     | AOC6-01-1.5 | AOC6-02-1.5 | AOC6-03-1.0 | AOC6-04-1.5 | AOC6-05-2.0 | AOC6-06-5.0 | AOC6-09-6.5 | AOC6-10-2.5 | AOC6-11-2.0 | AOC6-12-8.0 | AOC6-13-3.0 |
| Sample Date:        | 07/15/2009  | 07/15/2009  | 07/15/2009  | 07/15/2009  | 07/15/2009  | 07/15/2009  | 07/14/2009  | 07/14/2009  | 07/14/2009  | 07/14/2009  | 07/14/2009  |
| Sample Depth:       | 1.5-2       | 1.5-2       | 1-1.5       | 1.5-2       | 2-2.5       | 5-5.5       | 6.5-7       | 2.5-3       | 2-2.5       | 8-8.5       | 3-3.5       |
| pH Value (std unit) | 8.29        | 7.27        | 4.79        | 6.98        | 4.26        | 8.00        | 7.65        | 8.31        | 6.85        | 3.94        | 4.91        |
| Temperature (deg C) | 25.0        | 24.7        | 28.8        | 24.6        | 28.4        | 24.2        | 25.3        | 25.3        | 24.1        | 24.6        | 23.9        |

Notes:

1. pH analysis of soil was completed in the field
2. Analysis of soil sample for pH was completed immediately after collection of the sample

**Table 30**  
**Monitoring Well Field Sampling Data for July 2009**  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

|                                     |               |                |               |               |               |               |
|-------------------------------------|---------------|----------------|---------------|---------------|---------------|---------------|
| Monitor Well ID                     | TMW-1D        | TMW-12D        | TMW-9D        | TMW-2D        | TMW-4D        | TMW-5D        |
| Ground Water Sample ID:             | TMW-1D-072309 | TMW-12D-072209 | TMW-9D-072209 | TMW-2D-072309 | TMW-4D-072309 | TMW-5D-072409 |
| Laboratory Sample ID:               | A9G240125002  | A9G230196003   | A9G230196001  | A9G240125003  | A9G240125005  | A9G250133003  |
| Sample Date:                        | 07/23/2009    | 07/22/2009     | 07/22/2009    | 07/23/2009    | 07/23/2009    | 07/24/2009    |
| Top of Casing Elevations (ft MSL)   | 548.23        | 545.79         | 548.48        | 549.46        | 550.42        | 557.97        |
| Measured Depth to Ground Water (ft) | 24.66         | 22.23          | 25.00         | 25.12         | 26.27         | 34.14         |
| Groundwater Elevation (ft MSL)      | 523.57        | 523.56         | 523.48        | 524.34        | 524.15        | 523.83        |
| Purge Method                        | Low Flow      | Low Flow       | Low Flow      | Low Flow      | Low Flow      | Low Flow      |
| Sampling Method                     | Low Flow      | Low Flow       | Low Flow      | Low Flow      | Low Flow      | Low Flow      |
| Field Measurements                  |               |                |               |               |               |               |
| pH (std unit)                       | 6.25          | 6.58           | 5.92          | 6.76          | 7.21          | 6.39          |
| Temperature (deg C)                 | 20.07         | 20.57          | 21.84         | 17.43         | 18.69         | 19.19         |
| Dissolved Oxygen (mg/L)             | 0.00          | 0.00           | 0.26          | 3.05          | 0.00          | 0.00          |
| Conductivity (umhos/cm)             | 546           | 666            | 666           | 417           | 643           | 400           |
| Redox Potential (mV)                | 1             | -190           | -190          | -125          | -149          | 32            |
| Turbidity (NTU)                     | 132           | 27.0           | 40.1          | 137           | 6.24          | 39.9          |

|                                     |               |               |               |               |                |
|-------------------------------------|---------------|---------------|---------------|---------------|----------------|
| Monitor Well ID                     | TMW-6D        | TMW-7D        | TMW-8D        | TMW-4S        | TMW-11S        |
| Ground Water Sample ID:             | TMW-6D-072409 | TMW-7D-072409 | TMW-8D-072409 | TMW-4S-072309 | TMW-11S-072309 |
| Laboratory Sample ID:               | A9G250133002  | A9G250133005  | A9G250133001  | A9G240125004  | A9G240125007   |
| Sample Date:                        | 07/24/2009    | 07/24/2009    | 07/24/2009    | 07/23/2009    | 07/23/2009     |
| Top of Casing Elevations (ft MSL)   | 549.70        | 550.69        | 557.79        | 550.35        | 554.99         |
| Measured Depth to Ground Water (ft) | 25.78         | 27.00         | 33.87         | 26.22         | 30.86          |
| Groundwater Elevation (ft MSL)      | 523.92        | 523.69        | 523.92        | 524.13        | 524.13         |
| Purge Method                        | Low Flow      | Low Flow      | Low Flow      | Low Flow      | Low Flow       |
| Sampling Method                     | Low Flow      | Low Flow      | Low Flow      | Low Flow      | Low Flow       |
| Field Measurements                  |               |               |               |               |                |
| pH (std unit)                       | 6.20          | 6.30          | 6.75          | 6.70          | 6.76           |
| Temperature (deg C)                 | 17.75         | 19.51         | 18.43         | 19.96         | 18.75          |
| Dissolved Oxygen (mg/L)             | 0.00          | 0.00          | 0.00          | 8.25          | 0.00           |
| Conductivity (umhos/cm)             | 540           | 393           | 670           | 1001          | 973            |
| Redox Potential (mV)                | 158           | -2            | -69           | -103          | -152           |
| Turbidity (NTU)                     | 0.00          | 27.2          | 3.12          | 22.7          | 2.58           |

Notes

1. Monitoring wells were sampled by Potesta Associates of Charleston, WV
2. Wells were sampled using EPA SOP for low flow purging and sampling
3. Duplicate sample TMW-10 was collected from TMW-4D
4. Dissolved Oxygen data is suspect due to possible meter malfunction



Table 31  
Ground Water Results for Volatile Organic Compounds July 2009  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Monitor Well ID<br>Ground Water Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Concentration Unit:<br>Chemical Name |            | CAS RN | WVDEP 60CSR3<br>Table 60-3B<br>Ground Water<br>De Minimis<br>Level<br>ug/L | TMW-1D<br>TMW-1D-072309<br>A9G240125002<br>07/23/2009<br>ug/L<br>Result/RL LQ DV | TMW-2D<br>TMW-2D-072309<br>A9G240125003<br>07/23/2009<br>ug/L<br>Result/RL LQ DV | TMW-4D<br>TMW-4D-072309<br>A9G240125005<br>07/23/2009<br>ug/L<br>Result/RL LQ DV | TMW-5D<br>TMW-5D-072409<br>A9G250133003<br>07/24/2009<br>ug/L<br>Result/RL LQ DV | TMW-6D<br>TMW-6D-072409<br>A9G250133002<br>07/24/2009<br>ug/L<br>Result/RL LQ DV | TMW-7D<br>TMW-7D-072409<br>A9G250133005<br>07/24/2009<br>ug/L<br>Result/RL LQ DV | TMW-8D<br>TMW-8D-072409<br>A9G250133001<br>07/24/2009<br>ug/L<br>Result/RL LQ DV | TMW-9D<br>TMW-9D-072209<br>A9G230196001<br>07/22/2009<br>ug/L<br>Result/RL LQ DV | TMW-12D<br>TMW-12D-072209<br>A9G230196003<br>07/22/2009<br>ug/L<br>Result/RL LQ DV | TMW-4S<br>TMW-4S-072309<br>A9G240125004<br>07/23/2009<br>ug/L<br>Result/RL LQ DV | TMW-11S<br>TMW-11S-072309<br>A9G240125007<br>07/23/2009<br>ug/L<br>Result/RL LQ DV |        |        |
|-----------------------------------------------------------------------------------------------------------------------------|------------|--------|----------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------|--------|
| Tetrachloroethene                                                                                                           | 127-18-4   | 5      | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 40                                                                               | U                                                                                | 0.46                                                                             | J                                                                                  | 1                                                                                | U                                                                                  | 140    | U      |
| Trichloroethene                                                                                                             | 79-01-6    | 5      | 43                                                                         |                                                                                  | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 10                                                                               |                                                                                  | 40                                                                               |                                                                                    | 1                                                                                | U                                                                                  | 140    | U      |
| cis-1,2-Dichloroethene                                                                                                      | 156-59-2   | 70     | 21                                                                         |                                                                                  | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 2.5                                                                              |                                                                                  | 9.4                                                                              |                                                                                    | 1                                                                                | U                                                                                  | 140    | U      |
| trans-1,2-Dichloroethene                                                                                                    | 156-60-5   | 100    | 32                                                                         |                                                                                  | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 0.38                                                                             | J                                                                                  | 1                                                                                | U                                                                                  | 140    | U      |
| Vinyl chloride                                                                                                              | 75-01-4    | 2      | 1.4                                                                        |                                                                                  | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 50                                                                               | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 140    | U      |
| Ethylbenzene                                                                                                                | 100-41-4   | 700    | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 7,400  | 4,000  |
| Toluene                                                                                                                     | 108-88-3   | 1,000  | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 2                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 420    | 170    |
| Xylenes (total)                                                                                                             | 1330-20-7  | 10,000 | 2.9                                                                        | U                                                                                | 2                                                                                | U                                                                                | 2                                                                                | U                                                                                | 1                                                                                | U                                                                                | 2.9                                                                              | U                                                                                  | 2                                                                                | U                                                                                  | 19,000 | 11,000 |
| 1,1,1-Trichloroethane                                                                                                       | 71-55-6    | 200    | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 5                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 330    | 140    |
| 1,1-Dichloroethene                                                                                                          | 75-35-4    | 7      | 0.3                                                                        | J                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 0.2                                                                              | J                                                                                | 1.4                                                                              | U                                                                                  | 0.38                                                                             | J                                                                                  | 330    | 140    |
| 1,1-Dichloroethane                                                                                                          | 75-34-3    | 910    | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 330    | 140    |
| 1,1,2,2-Tetrachloroethane                                                                                                   | 79-34-5    | 0.055  | 2.9                                                                        |                                                                                  | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 0.2                                                                              | U                                                                                | 1.4                                                                              | U                                                                                  | 0.63                                                                             | J                                                                                  | 2      | 330    |
| 1,1,2-Trichloroethane                                                                                                       | 79-00-5    | 5      | 0.86                                                                       | J                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 0.2                                                                              | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 0.74   | 330    |
| 1,2-Dichloroethane                                                                                                          | 107-06-2   | 5      | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 330    | 140    |
| 1,4-Dioxane                                                                                                                 | 123-91-1   | 6.1    | 72                                                                         | U                                                                                | 50                                                                               | U                                                                                | 50                                                                               | U                                                                                | 2                                                                                | U                                                                                | 72                                                                               | U                                                                                  | 50                                                                               | U                                                                                  | 17,000 | 7,100  |
| Acetone                                                                                                                     | 67-64-1    | 5,500  | 5.3                                                                        | JB                                                                               | 2.3                                                                              | J                                                                                | 2.4                                                                              | J                                                                                | 0.2                                                                              | U                                                                                | 14                                                                               | U                                                                                  | 12                                                                               |                                                                                    | 2.4    | 490    |
| Chloroform                                                                                                                  | 67-66-3    | 0.17   | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 0.19   | 330    |
| 1,1,1,2-Tetrachloroethane                                                                                                   | 630-20-6   | 0.43   | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| 1,2,3-Trichloropropane                                                                                                      | 96-18-4    | 0.034  | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 0.2                                                                              | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| 1,2-Dibromo-3-chloropropane                                                                                                 | 96-12-8    | 0.2    | 2.9                                                                        | U                                                                                | 2                                                                                | U                                                                                | 2                                                                                | U                                                                                | 0.2                                                                              | U                                                                                | 2.9                                                                              | U                                                                                  | 2                                                                                | U                                                                                  | 2      | 670    |
| 1,2-Dibromoethane (EDB)                                                                                                     | 106-93-4   | 0.05   | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| 1,2-Dichloropropane                                                                                                         | 78-87-5    | 5      | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 5                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| 2-Butanone (MEK)                                                                                                            | 78-93-3    | 7,000  | 14                                                                         | U                                                                                | 10                                                                               | U                                                                                | 10                                                                               | U                                                                                | 0.2                                                                              | U                                                                                | 14                                                                               | U                                                                                  | 10                                                                               | U                                                                                  | 10     | 3,300  |
| 2-Hexanone                                                                                                                  | 591-78-6   | NS     | 14                                                                         | U                                                                                | 10                                                                               | U                                                                                | 10                                                                               | U                                                                                | 2                                                                                | B                                                                                | 14                                                                               | U                                                                                  | 10                                                                               | U                                                                                  | 10     | 3,300  |
| 4-Methyl-2-pentanone (MIBK)                                                                                                 | 108-10-1   | 6,300  | 14                                                                         | U                                                                                | 10                                                                               | U                                                                                | 10                                                                               | U                                                                                | 5                                                                                | U                                                                                | 14                                                                               | U                                                                                  | 10                                                                               | U                                                                                  | 10     | 3,300  |
| Acetonitrile                                                                                                                | 75-05-8    | 120    | 29                                                                         | U                                                                                | 20                                                                               | U                                                                                | 20                                                                               | U                                                                                | 1                                                                                | U                                                                                | 29                                                                               | U                                                                                  | 20                                                                               | U                                                                                  | 20     | 6,700  |
| Acrolein                                                                                                                    | 107-02-8   | 0.042  | 29                                                                         | U                                                                                | 20                                                                               | U                                                                                | 20                                                                               | U                                                                                | 20                                                                               | U                                                                                | 29                                                                               | U                                                                                  | 20                                                                               | U                                                                                  | 20     | 6,700  |
| Acrylonitrile                                                                                                               | 107-13-1   | 0.039  | 29                                                                         | U                                                                                | 20                                                                               | U                                                                                | 20                                                                               | U                                                                                | 2                                                                                | U                                                                                | 29                                                                               | U                                                                                  | 20                                                                               | U                                                                                  | 20     | 6,700  |
| Allyl chloride                                                                                                              | 107-05-1   | NS     | 2.9                                                                        | U                                                                                | 2                                                                                | U                                                                                | 2                                                                                | U                                                                                | 2                                                                                | U                                                                                | 2.9                                                                              | U                                                                                  | 2                                                                                | U                                                                                  | 2      | 670    |
| Benzene                                                                                                                     | 71-43-2    | 5      | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 10                                                                               | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Bromodichloromethane                                                                                                        | 75-27-4    | 0.18   | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 50                                                                               | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Bromoform                                                                                                                   | 75-25-2    | 8.5    | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 0.2                                                                              | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Bromomethane                                                                                                                | 74-83-9    | 8.7    | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 0.2                                                                              | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Carbon disulfide                                                                                                            | 75-15-0    | 1,000  | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 2                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Carbon tetrachloride                                                                                                        | 56-23-5    | 5      | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Chlorobenzene                                                                                                               | 108-90-7   | 100    | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 2                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Chloroethane                                                                                                                | 75-00-3    | 3.9    | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 5                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Chloromethane                                                                                                               | 74-87-3    | 190    | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 5                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Chloroprene                                                                                                                 | 126-99-8   | 14     | 2.9                                                                        | U                                                                                | 2                                                                                | U                                                                                | 2                                                                                | U                                                                                | 2                                                                                | U                                                                                | 2.9                                                                              | U                                                                                  | 2                                                                                | U                                                                                  | 2      | 670    |
| cis-1,3-Dichloropropene                                                                                                     | 10061-01-5 | NS     | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Dibromochloromethane                                                                                                        | 124-48-1   | 0.8    | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Dibromomethane                                                                                                              | 74-95-3    | 61     | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 2                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Dichlorodifluoromethane                                                                                                     | 75-71-8    | 390    | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 5                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Ethyl methacrylate                                                                                                          | 97-63-2    | 550    | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 10                                                                               | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Iodomethane                                                                                                                 | 74-88-4    | NS     | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Isobutyl alcohol                                                                                                            | 78-83-1    | 1,800  | 72                                                                         | U                                                                                | 50                                                                               | U                                                                                | 50                                                                               | U                                                                                | 1                                                                                | U                                                                                | 72                                                                               | U                                                                                  | 50                                                                               | U                                                                                  | 50     | 17,000 |
| Methacrylonitrile                                                                                                           | 126-98-7   | 1      | 2.9                                                                        | U                                                                                | 2                                                                                | U                                                                                | 2                                                                                | U                                                                                | 1                                                                                | U                                                                                | 2.9                                                                              | U                                                                                  | 2                                                                                | U                                                                                  | 2      | 670    |
| Methyl methacrylate                                                                                                         | 80-62-6    | 1,400  | 2.9                                                                        | U                                                                                | 2                                                                                | U                                                                                | 2                                                                                | U                                                                                | 0.2                                                                              | U                                                                                | 2.9                                                                              | U                                                                                  | 2                                                                                | U                                                                                  | 2      | 670    |
| Methylene chloride                                                                                                          | 75-09-2    | 5      | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Propionitrile                                                                                                               | 107-12-0   | NS     | 5.7                                                                        | U                                                                                | 4                                                                                | U                                                                                | 4                                                                                | U                                                                                | 4                                                                                | U                                                                                | 5.7                                                                              | U                                                                                  | 4                                                                                | U                                                                                  | 4      | 1300   |
| Styrene                                                                                                                     | 100-42-5   | 100    | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| trans-1,3-Dichloropropene                                                                                                   | 10061-02-6 | NS     | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| trans-1,4-Dichloro-2-butene                                                                                                 | 110-57-6   | NS     | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 2                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Trichlorofluoromethane                                                                                                      | 75-69-4    | 1,300  | 1.4                                                                        | U                                                                                | 1                                                                                | U                                                                                | 1                                                                                | U                                                                                | 2                                                                                | U                                                                                | 1.4                                                                              | U                                                                                  | 1                                                                                | U                                                                                  | 1      | 330    |
| Vinyl acetate                                                                                                               | 108-05-4   | 410    | 2.9                                                                        | U                                                                                | 2                                                                                | U                                                                                | 2                                                                                | U                                                                                | 5                                                                                | U                                                                                | 2.9                                                                              | U                                                                                  | 2                                                                                | U                                                                                  | 2      | 670    |

- Notes:
1. NS denotes No Standard for the Chemical
  2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Ground Water De Minimis Level
  3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Ground Water De Minimis Level
  4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Ground Water De Minimis Level

- Laboratory Data Qualifiers
- U - Target analyte not detected above listed Reporting Limit
- J - Estimated result. Result is less than Reporting Limit
- B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

- Data Validation Qualifiers
- B - Not detected substantially above the level reported in the laboratory or field blanks
- R - Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample. Supporting data is necessary to confirm result

Table 32  
Ground Water Results for Semi-Volatile Organic Compounds July 2009  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

Table 32

| Monitor Well ID<br>Ground Water Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Concentration Unit: |           | WVDEP 60CSR3<br>Table 60-3B<br>Ground Water<br>De Minimis<br>Level<br>ug/L | TMW-1D<br>TMW-1D-072309<br>A9G240125002<br>07/23/2009<br>ug/L |    |    | TMW-2D<br>TMW-2D-072309<br>A9G240125003<br>07/23/2009<br>ug/L |    |    | TMW-4D<br>TMW-4D-072309<br>A9G240125005<br>07/23/2009<br>ug/L |    |    | TMW-5D<br>TMW-5D-072409<br>A9G250133003<br>07/24/2009<br>ug/L |    |    | TMW-6D<br>TMW-6D-072409<br>A9G250133002<br>07/24/2009<br>ug/L |    |    | TMW-7D<br>TMW-7D-072409<br>A9G250133005<br>07/24/2009<br>ug/L |    |    | TMW-8D<br>TMW-8D-072409<br>A9G250133001<br>07/24/2009<br>ug/L |    |    | TMW-9D<br>TMW-9D-072209<br>A9G230196001<br>07/22/2009<br>ug/L |    |    | TMW-12D<br>TMW-12D-072209<br>A9G230196003<br>07/22/2009<br>ug/L |    |    | TMW-4S<br>TMW-4S-072309<br>A9G240125004<br>07/23/2009<br>ug/L |    |    | TMW-11S<br>TMW-11S-072309<br>A9G240125007<br>07/23/2009<br>ug/L |    |    |
|------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------------------|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|-----------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|-----------------------------------------------------------------|----|----|
| Chemical Name                                                                                              | CAS RN    |                                                                            | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                       | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                       | LQ | DV |
| 1,2,4,5-Tetrachlorobenzene                                                                                 | 95-94-3   | 11                                                                         | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| 1,2,4-Trichlorobenzene                                                                                     | 120-82-1  | 70                                                                         | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| 1,2-Dichlorobenzene                                                                                        | 95-50-1   | 600                                                                        | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| 1,2-Diphenylhydrazine                                                                                      | 122-66-7  | 0.084                                                                      | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| 1,3,5-Trinitrobenzene                                                                                      | 99-35-4   | 1,100                                                                      | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| 1,3-Dichlorobenzene                                                                                        | 541-73-1  | 600                                                                        | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| 1,3-Dinitrobenzene                                                                                         | 99-65-0   | 3.7                                                                        | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| 1,4-Dichlorobenzene                                                                                        | 106-46-7  | 75                                                                         | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| 1,4-Napthoquinone                                                                                          | 130-15-4  | NS                                                                         | 50                                                            | U  |    | 50                                                            | U  |    | 50                                                            | U  |    | 50                                                            | U  |    | 50                                                            | U  |    | 50                                                            | U  |    | 50                                                            | U  |    | 50                                                            | U  |    | 50                                                              | U  |    | 330                                                           | U  |    | 200                                                             | U  |    |
| 1-Naphthylamine                                                                                            | 134-32-7  | NS                                                                         | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| 2,3,4,6-Tetrachlorophenol                                                                                  | 58-90-2   | 1,100                                                                      | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                              | U  |    | 67                                                            | U  |    | 40                                                              | U  |    |
| 2,4,5-Trichlorophenol                                                                                      | 95-95-4   | 3,700                                                                      | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| 2,4,6-Trichlorophenol                                                                                      | 88-06-2   | 6.1                                                                        | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| 2,4-Dichlorophenol                                                                                         | 120-83-2  | 110                                                                        | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| 2,4-Dimethylphenol                                                                                         | 105-67-9  | 730                                                                        | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 130                                                           |    |    | 38                                                              |    |    |
| 2,4-Dinitrophenol                                                                                          | 51-28-5   | 73                                                                         | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| 2,4-Dinitrotoluene                                                                                         | 121-14-2  | 73                                                                         | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| 2,6-Dichlorophenol                                                                                         | 87-65-0   | NS                                                                         | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| 2,6-Dinitrotoluene                                                                                         | 606-20-2  | 37                                                                         | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| 2-Acetylaminofluorene                                                                                      | 53-96-3   | NS                                                                         | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                              | U  |    | 67                                                            | U  |    | 40                                                              | U  |    |
| 2-Chloronaphthalene                                                                                        | 91-58-7   | 490                                                                        | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| 2-Chlorophenol                                                                                             | 95-57-8   | 30                                                                         | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| 2-Methylnaphthalene                                                                                        | 91-57-6   | NS                                                                         | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 1.3                                                           | U  |    | 0.8                                                             | U  |    |
| 2-Methylphenol                                                                                             | 95-48-7   | 1,800                                                                      | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| 2-Naphthylamine                                                                                            | 91-59-8   | NS                                                                         | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 7.3                                                           | J  |    | 5.1                                                             | J  |    |
| 2-Nitroaniline                                                                                             | 88-74-4   | 110                                                                        | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| 2-Nitrophenol                                                                                              | 88-75-5   | NS                                                                         | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| 2-Picoline                                                                                                 | 109-06-8  | NS                                                                         | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| 2-sec-Butyl-4,6-dinitrophenol                                                                              | 88-85-7   | 7                                                                          | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| 3,3'-Dichlorobenzidine                                                                                     | 91-94-1   | 0.15                                                                       | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| 3,3'-Dimethoxybenzidine                                                                                    | 119-90-4  | 4.8                                                                        | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                              | U  |    | 67                                                            | U  |    | 40                                                              | U  |    |
| 3,3'-Dimethylbenzidine                                                                                     | 119-93-7  | 0.029                                                                      | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| 3-Methylcholanthrene                                                                                       | 56-49-5   | NS                                                                         | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| 3-Methylphenol                                                                                             | 108-39-4  | 1,800                                                                      | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 7                                                             |    |    | 4                                                               | U  |    |
| 3-Nitroaniline                                                                                             | 99-09-2   | NS                                                                         | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| 4,6-Dinitro-2-methylphenol                                                                                 | 534-52-1  | NS                                                                         | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| 4-Aminobiphenyl                                                                                            | 92-67-1   | NS                                                                         | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| 4-Bromophenyl phenyl ether                                                                                 | 101-55-3  | NS                                                                         | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| 4-Chloro-3-methylphenol                                                                                    | 59-50-7   | NS                                                                         | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| 4-Chloroaniline                                                                                            | 106-47-8  | 150                                                                        | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 8.6                                                           | J  |    | 3.9                                                             | J  |    |
| 4-Chlorophenyl phenyl ether                                                                                | 7005-72-3 | NS                                                                         | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| 4-Methylphenol                                                                                             | 106-44-5  | 180                                                                        | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 7                                                             |    |    | 4                                                               | U  |    |
| 4-Nitroaniline                                                                                             | 100-01-6  | NS                                                                         | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| 4-Nitrophenol                                                                                              | 100-02-7  | 290                                                                        | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| 4-Nitroquinoline-1-oxide                                                                                   | 56-57-5   | NS                                                                         | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| 5-Nitro-o-toluidine                                                                                        | 99-55-8   | 2                                                                          | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| 7,12-Dimethylbenz(a)anthracene                                                                             | 57-97-6   | NS                                                                         | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| a,a-Dimethylphenethylamine                                                                                 | 122-09-8  | NS                                                                         | 50                                                            | U  |    | 50                                                            | U  |    | 50                                                            | U  |    | 50                                                            | U  |    | 50                                                            | U  |    | 50                                                            | U  |    | 50                                                            | U  |    | 50                                                            | U  |    | 50                                                              | U  |    | 330                                                           | U  |    | 200                                                             | U  |    |

Notes:  
1. NS denotes No Standard for the Chemical  
2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Ground Water De Minimis Level  
3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Ground Water De Minimis Level  
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Ground Water De Minimis Level

Laboratory Data Qualifiers  
U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers  
B - Not detected substantially above the level reported in the laboratory or field blanks

Table 32  
Ground Water Results for Semi-Volatile Organic Compounds July 2009  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

| Monitor Well ID<br>Ground Water Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Concentration Unit: |           | WVDEP 60CSR3<br>Table 60-3B<br>Ground Water<br>De Minimis<br>Level<br>ug/L | TMW-1D<br>TMW-1D-072309<br>A9G240125002<br>07/23/2009<br>ug/L |    |    | TMW-2D<br>TMW-2D-072309<br>A9G240125003<br>07/23/2009<br>ug/L |    |    | TMW-4D<br>TMW-4D-072309<br>A9G240125005<br>07/23/2009<br>ug/L |    |    | TMW-5D<br>TMW-5D-072409<br>A9G250133003<br>07/24/2009<br>ug/L |    |    | TMW-6D<br>TMW-6D-072409<br>A9G250133002<br>07/24/2009<br>ug/L |    |    | TMW-7D<br>TMW-7D-072409<br>A9G250133005<br>07/24/2009<br>ug/L |    |    | TMW-8D<br>TMW-8D-072409<br>A9G250133001<br>07/24/2009<br>ug/L |    |    | TMW-9D<br>TMW-9D-072209<br>A9G230196001<br>07/22/2009<br>ug/L |    |    | TMW-12D<br>TMW-12D-072209<br>A9G230196003<br>07/22/2009<br>ug/L |    |    | TMW-4S<br>TMW-4S-072309<br>A9G240125004<br>07/23/2009<br>ug/L |    |    | TMW-11S<br>TMW-11S-072309<br>A9G240125007<br>07/23/2009<br>ug/L |    |    |
|------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------------------|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|-----------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|-----------------------------------------------------------------|----|----|
| Chemical Name                                                                                              | CAS RN    |                                                                            | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                       | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                       | LQ | DV |
| Acenaphthene                                                                                               | 83-32-9   | 370                                                                        | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 1.3                                                           | U  |    | 0.8                                                             | U  |    |
| Acenaphthylene                                                                                             | 208-96-8  | 370                                                                        | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 1.3                                                           | U  |    | 0.8                                                             | U  |    |
| Acetophenone                                                                                               | 98-86-2   | 610                                                                        | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 49                                                            |    |    | 14                                                              |    |    |
| Aniline                                                                                                    | 62-53-3   | 12                                                                         | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 24                                                            | J  |    | 44                                                              |    |    |
| Anthracene                                                                                                 | 120-12-7  | 1800                                                                       | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 1.3                                                           | U  |    | 0.8                                                             | U  |    |
| Aramite                                                                                                    | 140-57-8  | NS                                                                         | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| Benzidine                                                                                                  | 92-87-5   | 0.00029                                                                    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| Benzo(a)anthracene                                                                                         | 56-55-3   | 0.092                                                                      | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 1.3                                                           | U  |    | 0.8                                                             | U  |    |
| Benzo(a)pyrene                                                                                             | 50-32-8   | 0.2                                                                        | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 1.3                                                           | U  |    | 0.8                                                             | U  |    |
| Benzo(b)fluoranthene                                                                                       | 205-99-2  | 0.092                                                                      | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 1.3                                                           | U  |    | 0.8                                                             | U  |    |
| Benzo(ghi)perylene                                                                                         | 191-24-2  | 1100                                                                       | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 1.3                                                           | U  |    | 0.8                                                             | U  |    |
| Benzo(k)fluoranthene                                                                                       | 207-08-9  | 0.92                                                                       | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 1.3                                                           | U  |    | 0.8                                                             | U  |    |
| Benzyl alcohol                                                                                             | 100-51-6  | 18000                                                                      | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| bis(2-Chloro-1-methylethyl) ether                                                                          | 108-60-1  | 0.27                                                                       | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| bis(2-Chloroethoxy)methane                                                                                 | 111-91-1  | NS                                                                         | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| bis(2-Chloroethyl) ether                                                                                   | 111-44-4  | 80                                                                         | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| bis(2-Ethylhexyl) phthalate                                                                                | 117-81-7  | 6                                                                          | 2.9                                                           |    | B  | 3.6                                                           |    | B  | 2.2                                                           |    | JB | 2.9                                                           | B  | B  | 1.2                                                           | JB | B  | 1.4                                                           | JB | B  | 4.4                                                           | B  | B  | 1.8                                                           | JB | B  | 1.6                                                             | JB | B  | 6.7                                                           | J  | B  | 8                                                               | U  |    |
| Butyl benzyl phthalate                                                                                     | 85-68-7   | 7,300                                                                      | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| Chlorobenzilate                                                                                            | 510-15-6  | 0.25                                                                       | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| Chrysene                                                                                                   | 218-01-9  | 9.2                                                                        | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 1.3                                                           | U  |    | 0.8                                                             | U  |    |
| Diallate                                                                                                   | 2303-16-4 | NS                                                                         | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                              | U  |    | 67                                                            | U  |    | 40                                                              | U  |    |
| Dibenz(a,h)anthracene                                                                                      | 53-70-3   | 0.0092                                                                     | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 1.3                                                           | U  |    | 0.8                                                             | U  |    |
| Dibenzofuran                                                                                               | 132-64-9  | 37                                                                         | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| Diethyl phthalate                                                                                          | 84-66-2   | 29,000                                                                     | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 0.61                                                          | J  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| Dimethoate                                                                                                 | 60-51-5   | NS                                                                         | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| Dimethyl phthalate                                                                                         | 131-11-3  | 370,000                                                                    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| Di-n-butyl phthalate                                                                                       | 84-74-2   | 3,700                                                                      | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| Di-n-octyl phthalate                                                                                       | 117-84-0  | NS                                                                         | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| Diphenylamine                                                                                              | 122-39-4  | 910                                                                        | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 160                                                           |    |    | 88                                                              |    |    |
| Disulfoton                                                                                                 | 298-04-4  | 1.5                                                                        | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| Ethyl methanesulfonate                                                                                     | 62-50-0   | NS                                                                         | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| Famphur                                                                                                    | 52-85-7   | NS                                                                         | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                              | U  |    | 67                                                            | U  |    | 40                                                              | U  |    |
| Fluoranthene                                                                                               | 206-44-0  | 1,500                                                                      | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 1.3                                                           | U  |    | 0.8                                                             | U  |    |
| Fluorene                                                                                                   | 86-73-7   | 240                                                                        | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 1.3                                                           | U  |    | 0.8                                                             | U  |    |
| Hexachlorobenzene                                                                                          | 118-74-1  | 1                                                                          | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 1.3                                                           | U  |    | 0.8                                                             | U  |    |
| Hexachlorobutadiene                                                                                        | 87-68-3   | 0.86                                                                       | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| Hexachlorocyclopentadiene                                                                                  | 77-47-4   | 50                                                                         | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                            | U  |    | 10                                                              | U  |    | 67                                                            | U  |    | 40                                                              | U  |    |
| Hexachloroethane                                                                                           | 67-72-1   | 4.8                                                                        | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| Hexachloropropene                                                                                          | 1888-71-7 | NS                                                                         | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| Indeno(1,2,3-cd)pyrene                                                                                     | 193-39-5  | 0.092                                                                      | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 1.3                                                           | U  |    | 0.8                                                             | U  |    |
| Isodrin                                                                                                    | 465-73-6  | NS                                                                         | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| Isophorone                                                                                                 | 78-59-1   | 71                                                                         | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |
| Isosafrole                                                                                                 | 120-58-1  | NS                                                                         | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 33                                                            | U  |    | 20                                                              | U  |    |
| Methapyrilene                                                                                              | 91-80-5   | NS                                                                         | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| Methyl methanesulfonate                                                                                    | 66-27-3   | NS                                                                         | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| Methyl parathion                                                                                           | 298-00-0  | 9.1                                                                        | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                               | U  |    | 13                                                            | U  |    | 8                                                               | U  |    |
| Naphthalene                                                                                                | 91-20-3   | 6.2                                                                        | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 1.3                                                           | U  |    | 0.8                                                             | U  |    |
| Nitrobenzene                                                                                               | 98-95-3   | 3.4                                                                        | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 6.7                                                           | U  |    | 4                                                               | U  |    |

Notes:  
1. NS denotes No Standard for the Chemical  
2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Ground Water De Minimis Level  
3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Ground Water De Minimis Level  
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Ground Water De Minimis Level

Laboratory Data Qualifiers  
U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers  
B - Not detected substantially above the level reported in the laboratory or field blanks

Table 32  
Ground Water Results for Semi-Volatile Organic Compounds July 2009  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

Table 32

| Monitor Well ID                 |            | WVDEP 60CSR3 | TMW-1D        |    |    | TMW-2D        |    |    | TMW-4D        |    |    | TMW-5D        |    |    | TMW-6D        |    |    | TMW-7D        |    |    | TMW-8D        |    |    | TMW-9D        |    |    | TMW-12D        |    |    | TMW-4S        |    |    | TMW-11S        |    |    |
|---------------------------------|------------|--------------|---------------|----|----|---------------|----|----|---------------|----|----|---------------|----|----|---------------|----|----|---------------|----|----|---------------|----|----|---------------|----|----|----------------|----|----|---------------|----|----|----------------|----|----|
| Ground Water Sample ID:         |            | Table 60-3B  | TMW-1D-072309 |    |    | TMW-2D-072309 |    |    | TMW-4D-072309 |    |    | TMW-5D-072409 |    |    | TMW-6D-072409 |    |    | TMW-7D-072409 |    |    | TMW-8D-072409 |    |    | TMW-9D-072209 |    |    | TMW-12D-072209 |    |    | TMW-4S-072309 |    |    | TMW-11S-072309 |    |    |
| Laboratory Sample ID:           |            | Ground Water | A9G240125002  |    |    | A9G240125003  |    |    | A9G240125005  |    |    | A9G250133003  |    |    | A9G250133002  |    |    | A9G250133005  |    |    | A9G250133001  |    |    | A9G230196001  |    |    | A9G230196003   |    |    | A9G240125004  |    |    | A9G240125007   |    |    |
| Sample Date:                    |            | De Minimis   | 07/23/2009    |    |    | 07/23/2009    |    |    | 07/23/2009    |    |    | 07/24/2009    |    |    | 07/24/2009    |    |    | 07/24/2009    |    |    | 07/24/2009    |    |    | 07/22/2009    |    |    | 07/22/2009     |    |    | 07/23/2009    |    |    | 07/23/2009     |    |    |
| Concentration Unit:             |            | Level        | ug/L          |    |    | ug/L          |    |    | ug/L          |    |    | ug/L          |    |    | ug/L          |    |    | ug/L          |    |    | ug/L          |    |    | ug/L          |    |    | ug/L           |    |    | ug/L          |    |    | ug/L           |    |    |
| Chemical Name                   | CAS RN     | ug/L         | Result/RL     | LQ | DV | Result/RL     | LQ | DV | Result/RL     | LQ | DV | Result/RL     | LQ | DV | Result/RL     | LQ | DV | Result/RL     | LQ | DV | Result/RL     | LQ | DV | Result/RL     | LQ | DV | Result/RL      | LQ | DV | Result/RL     | LQ | DV | Result/RL      | LQ | DV |
| N-Nitrosodiethylamine           | 55-18-5    | 0.0045       | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |
| N-Nitrosodimethylamine          | 62-75-9    | 0.0013       | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1              | U  |    | 6.7           | U  |    | 4              | U  |    |
| N-Nitrosodi-n-butylamine        | 924-16-3   | 0.002        | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |
| N-Nitrosodi-n-propylamine       | 621-64-7   | 0.0096       | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1              | U  |    | 6.7           | U  |    | 4              | U  |    |
| N-Nitrosodiphenylamine          | 86-30-6    | 14           | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1              | U  |    | 160           |    |    | 88             |    |    |
| N-Nitrosomethylethylamine       | 10595-95-6 | 0.0031       | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |
| N-Nitrosomorpholine             | 59-89-2    | NS           | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |
| N-Nitrosopiperidine             | 100-75-4   | NS           | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |
| N-Nitrosopyrrolidine            | 930-55-2   | 0.032        | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |
| O,O,O-Triethyl phosphorothioate | 126-68-1   | NS           | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |
| o-Toluidine                     | 95-53-4    | 0.28         | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |
| Parathion                       | 56-38-2    | 220          | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |
| p-Dimethylaminoazobenzene       | 60-11-7    | NS           | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |
| Pentachlorobenzene              | 608-93-5   | 29           | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |
| Pentachloroethane               | 76-01-7    | NS           | 20            | U  |    | 20            | U  |    | 20            | U  |    | 20            | U  |    | 20            | U  |    | 20            | U  |    | 20            | U  |    | 20            | U  |    | 20             | U  |    | 130           | U  |    | 80             | U  |    |
| Pentachloronitrobenzene         | 82-68-8    | 0.26         | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |
| Pentachlorophenol               | 87-86-5    | 1            | 5             | U  |    | 5             | U  |    | 5             | U  |    | 5             | U  |    | 5             | U  |    | 5             | U  |    | 5             | U  |    | 5             | U  |    | 5              | U  |    | 33            | U  |    | 20             | U  |    |
| Phenacetin                      | 62-44-2    | NS           | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |
| Phenanthrene                    | 85-01-8    | 1,800        | 0.2           | U  |    | 0.2           | U  |    | 0.2           | U  |    | 0.2           | U  |    | 0.2           | U  |    | 0.2           | U  |    | 0.2           | U  |    | 0.2           | U  |    | 0.2            | U  |    | 1.3           | U  |    | 0.8            | U  |    |
| Phenol                          | 108-95-2   | 11,000       | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1             | U  |    | 1              | U  |    | 6.7           | U  |    | 4              | U  |    |
| Phorate                         | 298-02-2   | NS           | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |
| p-Phenylene diamine             | 106-50-3   | 6,900        | 40            | U  |    | 40            | U  |    | 40            | U  |    | 40            | U  |    | 40            | U  |    | 40            | U  |    | 40            | U  |    | 40            | U  |    | 40             | U  |    | 270           | U  |    | 160            | U  |    |
| Pronamide                       | 23950-58-5 | NS           | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |
| Pyrene                          | 129-00-0   | 180          | 0.2           | U  |    | 0.2           | U  |    | 0.2           | U  |    | 0.2           | U  |    | 0.2           | U  |    | 0.2           | U  |    | 0.2           | U  |    | 0.2           | U  |    | 0.2            | U  |    | 1.3           | U  |    | 0.8            | U  |    |
| Pyridine                        | 110-86-1   | 37           | 1             | U  |    | 1             | U  |    | 1             | U  |    | 0.63          | JB | B  | 1.2           | B  | B  | 1.5           | B  | B  | 0.72          | JB | B  | 1             | U  |    | 1              | U  |    | 6.7           | U  |    | 4              | U  |    |
| Safrole                         | 94-59-7    | NS           | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |
| Tetraethyldithiopyrophosphate   | 3689-24-5  | NS           | 5             | U  |    | 5             | U  |    | 5             | U  |    | 5             | U  |    | 5             | U  |    | 5             | U  |    | 5             | U  |    | 5             | U  |    | 5              | U  |    | 33            | U  |    | 20             | U  |    |
| Thionazin                       | 297-97-2   | NS           | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2             | U  |    | 2              | U  |    | 13            | U  |    | 8              | U  |    |

Notes:

1. NS denotes No Standard for the Chemical
2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Ground Water De Minimis Level
3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Ground Water De Minimis Level
4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Ground Water De Minimis Level

Laboratory Data Qualifiers

- U - Target analyte not detected above listed Reporting Limit  
J - Estimated result. Result is less than Reporting Limit  
B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers

- B - Not detected substantially above the level reported in the laboratory or field blanks

Table 33  
Ground Water Results for Metals July 2009  
RCRA Facility Investigation Phase II  
Former BASF Huntington Works, Huntington, West Virginia

Table 33

| Monitor Well ID<br>Ground Water Sample ID:<br>Laboratory Sample ID:<br>Sample Date:<br>Concentration Unit: |           | WVDEP 60CSR3<br>Table 60-3B<br>Ground Water<br>De Minimis<br>Level<br>ug/L | TMW-1D<br>TMW-1D-072309<br>A9G240125002<br>07/23/2009<br>ug/L |    |    | TMW-2D<br>TMW-2D-072309<br>A9G240125003<br>07/23/2009<br>ug/L |    |    | TMW-4D<br>TMW-4D-072309<br>A9G240125005<br>07/23/2009<br>ug/L |    |    | TMW-5D<br>TMW-5D-072409<br>A9G250133003<br>07/24/2009<br>ug/L |    |    | TMW-6D<br>TMW-6D-072409<br>A9G250133002<br>07/24/2009<br>ug/L |    |    | TMW-7D<br>TMW-7D-072409<br>A9G250133005<br>07/24/2009<br>ug/L |    |    | TMW-8D<br>TMW-8D-072409<br>A9G250133001<br>07/24/2009<br>ug/L |    |    | TMW-9D<br>TMW-9D-072209<br>A9G230196001<br>07/22/2009<br>ug/L |    |    | TMW-12D<br>TMW-12D-072209<br>A9G230196003<br>07/22/2009<br>ug/L |    |    | TMW-4S<br>TMW-4S-072309<br>A9G240125004<br>07/23/2009<br>ug/L |    |    | TMW-11S<br>TMW-11S-072309<br>A9G240125007<br>07/23/2009<br>ug/L |    |    |
|------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------------------|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|-----------------------------------------------------------------|----|----|---------------------------------------------------------------|----|----|-----------------------------------------------------------------|----|----|
| Chemical Name                                                                                              | CAS RN    | ug/L                                                                       | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                       | LQ | DV | Result/RL                                                     | LQ | DV | Result/RL                                                       | LQ | DV |
| Antimony                                                                                                   | 7440-36-0 | 6                                                                          | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 2                                                             | U  |    | 0.25                                                          | J  |    | 0.21                                                            | J  | B  | 2                                                             | U  |    | 2                                                               | U  |    |
| Arsenic                                                                                                    | 7440-38-2 | 10                                                                         | 3.6                                                           | J  |    | <b>38.6</b>                                                   |    |    | 12.6                                                          |    |    | 1                                                             | J  |    | 5                                                             | U  |    | 0.69                                                          | J  |    | 1.7                                                           | J  |    | 0.7                                                           | J  |    | 1.8                                                             | J  |    | 12.2                                                          |    |    | <b>20.9</b>                                                     |    |    |
| Barium                                                                                                     | 7440-39-3 | 2,000                                                                      | 50.8                                                          | B  |    | 352                                                           | B  |    | 67.9                                                          | B  |    | 60.9                                                          | B  |    | 64.6                                                          | B  |    | 118                                                           | B  |    | 62.3                                                          | B  |    | 24.4                                                          | B  |    | 55.1                                                            | B  |    | 714                                                           | B  |    | 662                                                             | BJ |    |
| Beryllium                                                                                                  | 7440-41-7 | 4                                                                          | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 1                                                             | U  |    | 1                                                               | U  |    |
| Cadmium                                                                                                    | 7440-43-9 | 5                                                                          | 0.76                                                          | J  |    | 1                                                             | U  |    | 1                                                             | U  |    | 0.16                                                          | J  |    | 1                                                             | U  |    | 1                                                             | U  |    | 0.15                                                          | J  |    | 0.97                                                          | J  |    | 1                                                               | U  |    | 1                                                             | U  |    | 1                                                               | U  |    |
| Chromium                                                                                                   | 7440-47-3 | NS                                                                         | 3.3                                                           |    | B  | 2                                                             | U  |    | 2                                                             | U  |    | 1.1                                                           | J  |    | 2                                                             | U  |    | 0.84                                                          | J  |    | 2                                                             | U  |    | 1.6                                                           | J  |    | 0.98                                                            | J  |    | 2                                                             | U  |    | 2                                                               | U  |    |
| Cobalt                                                                                                     | 7440-48-4 | 730                                                                        | 10.3                                                          |    |    | 1                                                             |    |    | 1.9                                                           |    |    | 5.5                                                           |    |    | 3.4                                                           |    |    | 1.8                                                           |    |    | 6.2                                                           |    |    | 12.8                                                          |    |    | 4                                                               |    |    | 0.71                                                          | J  |    | 2.3                                                             |    |    |
| Copper                                                                                                     | 7440-50-8 | 1,500                                                                      | 9.3                                                           | B  |    | 0.77                                                          | JB | B  | 1.7                                                           | JB | B  | 1.5                                                           | JB | B  | 0.49                                                          | JB | B  | 1.2                                                           | JB | B  | 1.7                                                           | JB | B  | 2.8                                                           | B  | K  | 2.1                                                             | B  | BK | 2.2                                                           | B  | B  | 0.32                                                            | JB | B  |
| Lead                                                                                                       | 7439-92-1 | 15                                                                         | 3.9                                                           |    |    | 0.86                                                          | J  |    | 1.2                                                           |    |    | 0.75                                                          | J  |    | 0.34                                                          | J  |    | 0.6                                                           | J  |    | 0.48                                                          | J  |    | 1.9                                                           |    |    | 0.69                                                            | J  |    | 0.24                                                          | J  |    | 1                                                               | U  |    |
| Mercury                                                                                                    | 7439-97-6 | NS                                                                         | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 50                                                            | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    | 0.2                                                           | U  |    | 0.2                                                             | U  |    |
| Nickel                                                                                                     | 7440-02-0 | 100                                                                        | 13.2                                                          | B  |    | 2.2                                                           | B  | K  | 2.5                                                           | B  | KB | 5.6                                                           | B  |    | 2.6                                                           | B  | K  | 2.9                                                           | B  | KB | 4                                                             | B  | K  | 25.7                                                          | B  |    | 5.2                                                             | B  |    | 1.3                                                           | JB | KB | 0.88                                                            | JB | KB |
| Selenium                                                                                                   | 7782-49-2 | 50                                                                         | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                             | U  |    | 5                                                               | U  |    | 5                                                             | U  |    | 5                                                               | U  |    |
| Silver                                                                                                     | 7440-22-4 | 180                                                                        | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 1                                                             | U  |    | 1                                                               | U  |    |
| Thallium                                                                                                   | 7440-28-0 | 2                                                                          | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                             | U  |    | 1                                                               | U  |    | 1                                                             | U  |    | 1                                                               | U  |    |
| Tin                                                                                                        | 7440-31-5 | 22,000                                                                     | 0.31                                                          | J  |    | 50                                                            | U  |    | 50                                                            | U  |    | 50                                                            | U  |    | 0.57                                                          | J  |    | 50                                                            | U  |    | 50                                                            | U  |    | 0.75                                                          | J  |    | 0.57                                                            | J  |    | 0.71                                                          | J  |    | 50                                                              | U  |    |
| Vanadium                                                                                                   | 7440-62-2 | 37                                                                         | 4.4                                                           | J  |    | 0.45                                                          | J  |    | 0.98                                                          | J  |    | 1.1                                                           | J  |    | 20                                                            | U  |    | 1.1                                                           | J  |    | 20                                                            | U  |    | 1.8                                                           | J  |    | 0.96                                                            | J  |    | 20                                                            | U  |    | 20                                                              | U  |    |
| Zinc                                                                                                       | 7440-66-6 | 11,000                                                                     | 22.9                                                          | B  | KB | 50.5                                                          | B  |    | 5.3                                                           | JB | KB | 7.6                                                           | JB | KB | 3.4                                                           | JB | KB | 3.8                                                           | JB | KB | 3.1                                                           | JB | KB | 36.3                                                          | B  | K  | 9.8                                                             | JB | BK | 5                                                             | JB | KB | 3.7                                                             | JB | KB |

Notes:

1. NS denotes No Standard for the Chemical

2. **Bolded** values exceed the WVDEP 60CSR3 Table 60-3B Ground Water De Minimis Level

3. Underlined values exceed the WVDEP 60CSR3 Table 60-3B Ground Water De Minimis Level

4. *Italicized* values denotes the Report Limit was above the WVDEP 60CSR3 Table 60-3B Ground Water De Minimis Level

Laboratory Data Qualifiers

U - Target analyte not detected above listed Reporting Limit

J - Estimated result. Result is less than Reporting Limit

B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Data Validation Qualifiers

B - Not detected substantially above the level reported in the laboratory or field blanks

J - Analyte is present. Reported value may not be accurate or precise.

K - Analyte is present. Reported value may be biased high. Actual value is expected to be lower.

**Table 34**  
**Ground Water Results for Natural Attenuation Parameters July 2009**  
 RCRA Facility Investigation Phase II  
 Former BASF Huntington Works, Huntington, West Virginia

| Monitor Well ID         |            | TMW-1D        | TMW-12D        | TMW-9D        | TMW-2D        | TMW-4D        | TMW-5D        |
|-------------------------|------------|---------------|----------------|---------------|---------------|---------------|---------------|
| Ground Water Sample ID: |            | TMW-1D-072309 | TMW-12D-072209 | TMW-9D-072209 | TMW-2D-072309 | TMW-4D-072309 | TMW-5D-072409 |
| Laboratory Sample ID:   |            | A9G240125002  | A9G230196003   | A9G230196001  | A9G240125003  | A9G240125005  | A9G250133003  |
| Sample Date:            |            | 07/23/2009    | 07/22/2009     | 07/22/2009    | 07/23/2009    | 07/23/2009    | 07/24/2009    |
| Concentration Unit:     |            | ug/L          | ug/L           | ug/L          | ug/L          | ug/L          | ug/L          |
| Chemical Name           | CAS RN     | Result/RL     | LQ             | Result/RL     | LQ            | Result/RL     | LQ            |
| Dissolved Gases (ug/L)  |            |               |                |               |               |               |               |
| Ethene                  | 9002-88-4  | 0.50 U        | 0.72           | 0.50 U        | 0.50 U        | 0.50 U        | 0.50 U        |
| Ethane                  | none       | 0.50 U        | 0.72           | 0.50 U        | 0.50 U        | 0.50 U        | 0.50 U        |
| Methane                 | 74-82-8    | 33            | 91             | 0.65          | 5.9           | 0.71          | 2.8           |
| (mg/L)                  |            |               |                |               |               |               |               |
| Chloride                | 16887-00-6 | 46.3          | 50.2 J         | 27.6 J        | 39.0          | 34.2          | 35.8          |
| Nitrate as N            | 14797-55-8 | 0.10 U        | 0.10 U         | 0.40          | 0.10 U        | 0.10 U        | 0.10 U        |
| Sulfate                 | 14808-79-8 | 84.8          | 93.5 J         | 266           | 44.6          | 77.3          | 18.1          |

| Monitor Well ID         |            | TMW-7D        |    | TMW-6D        |    | TMW-8D        |    | TMW-4S        |    | TMW-11S        |    |
|-------------------------|------------|---------------|----|---------------|----|---------------|----|---------------|----|----------------|----|
| Ground Water Sample ID: |            | TMW-7D-072409 |    | TMW-6D-072409 |    | TMW-8D-072409 |    | TMW-4S-072309 |    | TMW-11S-072309 |    |
| Laboratory Sample ID:   |            | A9G250133005  |    | A9G250133002  |    | A9G250133001  |    | A9G240125004  |    | A9G240125007   |    |
| Sample Date:            |            | 07/24/2009    |    | 07/24/2009    |    | 07/24/2009    |    | 07/23/2009    |    | 07/23/2009     |    |
| Concentration Unit:     |            | ug/L          |    | ug/L          |    | ug/L          |    | ug/L          |    | ug/L           |    |
| Chemical Name           | CAS RN     | Result/RL     | LQ | Result/RL     | LQ | Result/RL     | LQ | Result/RL     | LQ | Result/RL      | LQ |
| Dissolved Gases (ug/L)  |            |               |    |               |    |               |    |               |    |                |    |
| Ethene                  | 9002-88-4  | 0.50 U        |    | 0.50 U        |    | 0.50 U        |    | 0.50 U        |    | 1.0 U          |    |
| Ethane                  | none       | 0.50 U        |    | 0.50 U        |    | 0.50 U        |    | 0.50 U        |    | 1.0 U          |    |
| Methane                 | 74-82-8    | 0.50 U        |    | 0.30          | J  | 2.2           |    | 1,000         |    | 720            |    |
| (mg/L)                  |            |               |    |               |    |               |    |               |    |                |    |
| Chloride                | 16887-00-6 | 1.0 U         |    | 96.0          |    | 82.8          |    | 68.9          |    | 30.7           |    |
| Nitrate as N            | 14797-55-8 | 0.10 U        |    | 1.0           |    | 0.10 U        |    | 0.10 U        |    | 0.10 U         |    |
| Sulfate                 | 14808-79-8 | 1.0 U         |    | 42.8          |    | 50.4          |    | 69.9          |    | 118            |    |

Notes:

1. U - Target analyte not detected above listed Reporting Limit
2. J - Estimated result. Result is less than Reporting Limit
3. B - Method blank contamination. The associated method blank contains the target analyte at a reportable level.
4. Data validation was not completed for Dissolved Gases and Anions analytical results.

**TABLE 35**  
**Chlorinated Volatile Organic Compounds Data Trends for Ground Water at TMW-1D, TMW-5D and TMW-7D**  
 RCRA Facility Investigation Phase II  
 Former BASF Huntington Works Facility, Huntington, West Virginia

| Monitor Well ID           | TMW-1D    |          |           |           | TMW-5D    |          |           |           | TMW-7D    |          |           |           |
|---------------------------|-----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|----------|-----------|-----------|
| Sample Date               | 8/27/2002 | 02/23/03 | 2/28/2005 | 7/23/2009 | 8/27/2002 | 02/23/03 | 2/28/2005 | 7/23/2009 | 8/27/2002 | 02/23/03 | 2/28/2005 | 7/23/2009 |
| Volatile Organic          |           |          |           |           |           |          |           |           |           |          |           |           |
| Trichloroethene           | 141       | 100      | 67        | 43        | 11.4      | 19       | 20        | 10        | 31.7      | 66       | 71        | 40        |
| cis-1,2 dichloroethene    | 23.2      | 32       | 22        | 21        | 3.3       | 3.8      | 6.9       | 2.5       | 11        | 15       | 19        | 9.4       |
| vinyl chloride            | 2.8       | 2.2      | 3.6       | 1.4       | ND        | ND       | ND        | ND        | ND        | ND       | ND        | ND        |
| 1,1,2,2 tetrachloroethane | 17.8      | 12       | 5.2       | 2.9       | ND        | ND       | ND        | ND        | ND        | ND       | ND        | ND        |

Note:

1. ND - Non detect, compound was not detected in the sample above the minimum detection limit

**TABLE 36**  
**Aromatic Volatile Organic Compounds Data Trends for Ground Water at TMW-4S and TMW-11S**  
 RCRA Facility Investigation Phase II  
 Former BASF Huntington Works Facility, Huntington, West Virginia

| Monitor Well ID  | TMW-4S      |               |            |           | TMW-11S    |           |
|------------------|-------------|---------------|------------|-----------|------------|-----------|
| Sample Date      | August 2002 | February 2003 | March 2005 | July 2009 | March 2005 | July 2009 |
| Volatile Organic |             |               |            |           |            |           |
| Benzene          | 107         | ND            | 18         | ND*       | 85         | ND*       |
| Toluene          | 11,700      | 8,200         | 120        | 420       | 4,400      | 170       |
| Ethylbenzene     | 39,000      | 29,000        | 2,600      | 7,400     | 12,000     | 4,000     |
| Xylenes          | 128,100     | 110,000       | 5,600      | 11,000    | 42,000     | 19,000    |
| Aniline          | 118         | 1200          | 13         | 24        | 19         | 44        |

Note:

1. ND - Non detect, compound was not detected in the sample above the minimum detection limit
2. \* - Denotes elevated detection limit.



## **ATTACHMENTS**

|               |                                                                                             |
|---------------|---------------------------------------------------------------------------------------------|
| Attachment A: | Soil Boring Logs                                                                            |
| Attachment B: | BASF Corporation December 7, 1999 Commitment Letter                                         |
| Attachment C: | Monitoring Well Logs                                                                        |
| Attachment D: | Slug Test Data                                                                              |
| Attachment E: | Potentiometric Contours for Ground Water 2002, 2003 and 2005                                |
| Attachment F: | Soil Drill Cuttings and Purge Water Disposal Manifest                                       |
| Attachment G: | July 2009 Ground Water Sampling Report                                                      |
| Attachment H: | Data Validation Report (bound separately)                                                   |
| Attachment I: | Environmental Resource Associates Performance Evaluation Results<br>for Sample AOC2-22-10.0 |

## **ATTACHMENT A**

### **Soil Boring Logs**



## SOIL BORING LOG

|                                  |                            |                                      |
|----------------------------------|----------------------------|--------------------------------------|
| Boring No.: <b>AOC1-01</b>       | Date: 6-18-02              |                                      |
| Project Name: BASF Huntington    | ELM Inspector: L.Coman     | Boring Method: Direct Push           |
| Project Location: Huntington, WV | Total Boring Depth (ft): 4 | Sampler Type: 4' Macrocore           |
| Project No.: 99184               | Depth to Groundwater (ft): | Drilling Contractor: Subsurface Inc. |

| Blow<br>Counts<br>or Rate | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                                                                                                                                                                | Depth<br>ft (0.1) | Sample | PID<br>(ppm) |
|---------------------------|---------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------|--------------|
|                           | 77.5          |                        | Lt Br m-f SAND, trace f Gravel, trace Silt; very compact                                                                                                                                                     |                   |        | 0            |
|                           |               |                        | Br m-f SAND, trace f Gravel, trace Silt; concrete fragments                                                                                                                                                  |                   |        | 8            |
|                           |               |                        | Br Clayey SILT, trace m-f Sand, trace f Gravel; moist, blue staining, piece of paper                                                                                                                         |                   |        | 2.8          |
|                           |               |                        |                                                                                                                                                                                                              |                   |        | 0            |
|                           |               |                        |                                                                                                                                                                                                              |                   |        | 0            |
|                           |               |                        |                                                                                                                                                                                                              | 4                 |        | 0            |
|                           |               |                        |                                                                                                                                                                                                              |                   |        |              |
|                           |               |                        |                                                                                                                                                                                                              |                   |        |              |
|                           |               |                        |                                                                                                                                                                                                              | 8                 |        |              |
|                           |               |                        |                                                                                                                                                                                                              |                   |        |              |
|                           |               |                        |                                                                                                                                                                                                              |                   |        |              |
|                           |               |                        |                                                                                                                                                                                                              | 12                |        |              |
|                           |               |                        |                                                                                                                                                                                                              |                   |        |              |
|                           |               |                        |                                                                                                                                                                                                              |                   |        |              |
|                           |               |                        |                                                                                                                                                                                                              | 16                |        |              |
|                           |               |                        |                                                                                                                                                                                                              |                   |        |              |
|                           |               |                        |                                                                                                                                                                                                              |                   |        |              |
| <u>Notes:</u>             |               |                        | <u>Abbreviation Legend:</u>                                                                                                                                                                                  |                   |        |              |
|                           |               |                        | f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                  Lt - Light<br>Br - Brown                 Dk - Dark |                   |        |              |







## SOIL BORING LOG

|                                  |                            |                                       |
|----------------------------------|----------------------------|---------------------------------------|
| Boring No.: <b>AOC1-04</b>       | Date: 6/18/02              |                                       |
| Project Name: BASF Huntington    | ELM Inspector: L. Coman    | Boring Method: Direct Push            |
| Project Location: Huntington, WV | Total Boring Depth (ft): 4 | Sampler Type: 4' Macrocore            |
| Project No.: 99184               | Depth to Groundwater (ft): | Drilling Contractor: Subsurface, Inc. |

| Blow<br>Counts<br>or Rate | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                     | Depth<br>ft (0.1)                                                                                                                                                                                            | Sample | PID<br>(ppm) |
|---------------------------|---------------|------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|
|                           | 95            |                        | Br Gy c-m-f SAND, little cm-f Gravel; many roots;<br>top soil     |                                                                                                                                                                                                              |        | 0            |
|                           |               |                        | Yellow Or Tan; Silty CLAY, little m-f Sand; trace<br>c-m-f Gravel |                                                                                                                                                                                                              |        | 0            |
|                           |               |                        |                                                                   |                                                                                                                                                                                                              |        | 0            |
|                           |               |                        |                                                                   |                                                                                                                                                                                                              |        | 0            |
|                           |               |                        |                                                                   |                                                                                                                                                                                                              |        | 0            |
|                           |               |                        |                                                                   |                                                                                                                                                                                                              |        | 0            |
|                           |               |                        |                                                                   | 4                                                                                                                                                                                                            |        | 0            |
|                           |               |                        |                                                                   |                                                                                                                                                                                                              |        |              |
|                           |               |                        |                                                                   |                                                                                                                                                                                                              |        |              |
|                           |               |                        |                                                                   | 8                                                                                                                                                                                                            |        |              |
|                           |               |                        |                                                                   |                                                                                                                                                                                                              |        |              |
|                           |               |                        |                                                                   |                                                                                                                                                                                                              |        |              |
|                           |               |                        |                                                                   | 12                                                                                                                                                                                                           |        |              |
|                           |               |                        |                                                                   |                                                                                                                                                                                                              |        |              |
|                           |               |                        |                                                                   |                                                                                                                                                                                                              |        |              |
|                           |               |                        |                                                                   | 16                                                                                                                                                                                                           |        |              |
|                           |               |                        |                                                                   |                                                                                                                                                                                                              |        |              |
|                           |               |                        |                                                                   |                                                                                                                                                                                                              |        |              |
| <u>Notes:</u>             |               |                        |                                                                   | <u>Abbreviation Legend:</u>                                                                                                                                                                                  |        |              |
|                           |               |                        |                                                                   | f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                  Lt - Light<br>Br - Brown                 Dk - Dark |        |              |



## SOIL BORING LOG

|                                  |                            |                                       |
|----------------------------------|----------------------------|---------------------------------------|
| Boring No.: <b>AOC3-01</b>       | Date: 6/19/02              |                                       |
| Project Name: BASF Huntington    | ELM Inspector: L. Coman    | Boring Method: Direct Push            |
| Project Location: Huntington, WV | Total Boring Depth (ft): 4 | Sampler Type: 4' Macrocore            |
| Project No.: 99184               | Depth to Groundwater (ft): | Drilling Contractor: Subsurface, Inc. |

| Blow<br>Counts<br>or Rate | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                                      | Depth<br>ft (0.1)                                                                                                                                                                                         | Sample | PID<br>(ppm) |
|---------------------------|---------------|------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|
|                           | 95            |                        | Bl Gy ASPHALT                                                                      |                                                                                                                                                                                                           |        | 0            |
|                           |               |                        | Bl Br c-m-f SAND, little c-m-f Gravel, trace Silt;<br>dense, few pieces of Asphalt |                                                                                                                                                                                                           |        | 0            |
|                           |               |                        | Or Br m-f SAND, some Clayey Silt; dense                                            |                                                                                                                                                                                                           |        | 0            |
|                           |               |                        |                                                                                    |                                                                                                                                                                                                           |        | 0            |
|                           |               |                        | Or Br c-m-f SAND, little Silt                                                      |                                                                                                                                                                                                           |        | 0            |
|                           |               |                        |                                                                                    | 4                                                                                                                                                                                                         |        | 0            |
|                           |               |                        |                                                                                    |                                                                                                                                                                                                           |        |              |
|                           |               |                        |                                                                                    |                                                                                                                                                                                                           |        |              |
|                           |               |                        |                                                                                    | 8                                                                                                                                                                                                         |        |              |
|                           |               |                        |                                                                                    |                                                                                                                                                                                                           |        |              |
|                           |               |                        |                                                                                    |                                                                                                                                                                                                           |        |              |
|                           |               |                        |                                                                                    | 12                                                                                                                                                                                                        |        |              |
|                           |               |                        |                                                                                    |                                                                                                                                                                                                           |        |              |
|                           |               |                        |                                                                                    |                                                                                                                                                                                                           |        |              |
|                           |               |                        |                                                                                    | 16                                                                                                                                                                                                        |        |              |
|                           |               |                        |                                                                                    |                                                                                                                                                                                                           |        |              |
|                           |               |                        |                                                                                    |                                                                                                                                                                                                           |        |              |
| Notes:                    |               |                        |                                                                                    | Abbreviation Legend:                                                                                                                                                                                      |        |              |
|                           |               |                        |                                                                                    | f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                 Gr - Green<br>Bl - Black                 Lt - Light<br>Br - Brown                Dk - Dark |        |              |



## SOIL BORING LOG

|                                  |                            |                                       |
|----------------------------------|----------------------------|---------------------------------------|
| Boring No.: <b>AOC3-02</b>       | Date: 6/19/02              |                                       |
| Project Name: BASF Huntington    | ELM Inspector: L. Coman    | Boring Method: Direct Push            |
| Project Location: Huntington, WV | Total Boring Depth (ft): 4 | Sampler Type: 4' Macrocore            |
| Project No.: 99184               | Depth to Groundwater (ft): | Drilling Contractor: Subsurface, Inc. |

| Blow<br>Counts<br>or Rate | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                                                                                                                                                                | Depth<br>ft (0.1) | Sample | PID<br>(ppm) |
|---------------------------|---------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------|--------------|
|                           | 90            |                        | Gry Bl ASPHALT                                                                                                                                                                                               |                   |        | 0            |
|                           |               |                        | Br Bl c-m-f SAND, little m-f Gravel trace Silt;<br>pieces of asphalt                                                                                                                                         |                   |        | 0            |
|                           |               |                        | Or Br m-f SAND, little Clayey Silt; compacted dry                                                                                                                                                            |                   |        | 0            |
|                           |               |                        | Or Br m-f SAND, little Silt; Gr staining on bottom<br>0.3'                                                                                                                                                   |                   |        | 0            |
|                           |               |                        |                                                                                                                                                                                                              | 4                 |        | 0            |
|                           |               |                        |                                                                                                                                                                                                              |                   |        |              |
|                           |               |                        |                                                                                                                                                                                                              |                   |        |              |
|                           |               |                        |                                                                                                                                                                                                              | 8                 |        |              |
|                           |               |                        |                                                                                                                                                                                                              |                   |        |              |
|                           |               |                        |                                                                                                                                                                                                              |                   |        |              |
|                           |               |                        |                                                                                                                                                                                                              | 12                |        |              |
|                           |               |                        |                                                                                                                                                                                                              |                   |        |              |
|                           |               |                        |                                                                                                                                                                                                              |                   |        |              |
|                           |               |                        |                                                                                                                                                                                                              | 16                |        |              |
|                           |               |                        |                                                                                                                                                                                                              |                   |        |              |
|                           |               |                        |                                                                                                                                                                                                              |                   |        |              |
| <u>Notes:</u>             |               |                        | <u>Abbreviation Legend:</u>                                                                                                                                                                                  |                   |        |              |
|                           |               |                        | f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                  Lt - Light<br>Br - Brown                 Dk - Dark |                   |        |              |



# SOIL BORING LOG

Boring No.: **AOC3-03**

Date: 6/19/02

Project Name: BASF Huntington

ELM Inspector: L. Coman

Boring Method: Direct Pus

Project Location: Huntington, WV

Total Boring Depth (ft): 4

Sampler Type: 4' Macrocore

Project No.: 99184

Depth to Groundwater (ft):

Drilling Contractor: Subsurface, Inc.

[illegible]

# SOIL BORING LOG

Boring No.: **AOC3-04**

Date: 6/19/02

Project Name: BASF Huntington

ELM Inspector: L. Coman

Boring Method: Direct Push

Project Location: Huntington, WV

Total Boring Depth (ft): 4

Sampler Type: 4' Macrocore

Project No.: 99184

Depth to Groundwater (ft):

Drilling Contractor: Subsurface, Inc.

| Blow Counts or Rate | % Recovery | Soil Type Symbol | Soil Description/Observations                                                             | Depth ft (0.1) | Sample | PID (ppm) |
|---------------------|------------|------------------|-------------------------------------------------------------------------------------------|----------------|--------|-----------|
|                     | 77         |                  | Gy Bl ASPHALT                                                                             |                |        | 0         |
|                     |            |                  | Bl c-m-f SAND, little m-f Gravel, trace Silt                                              |                |        | 5.3       |
|                     |            |                  | Magenta Clayey SILT, trace c-m-f Sand, trace f Gravel; moist; Gr metallic crystals at 2.2 |                |        | 0         |
|                     |            |                  |                                                                                           |                |        | 0         |
|                     |            |                  |                                                                                           |                |        | 0         |
|                     |            |                  |                                                                                           |                |        | .8        |
|                     |            |                  |                                                                                           | 4              |        |           |
|                     |            |                  |                                                                                           | 8              |        |           |
|                     |            |                  |                                                                                           | 12             |        |           |
|                     |            |                  |                                                                                           | 16             |        |           |

Notes:

Abbreviation Legend:

|            |             |
|------------|-------------|
| f - fine   | Or - Orange |
| m - medium | Gy - Gray   |
| c - coarse | Gr - Green  |
| Bl - Black | Lt - Light  |
| Br - Brown | Dk - Dark   |



# SOIL BORING LOG

Boring No.: **AOC3-05**      Date: 6-19-02  
 Project Name: BASF Huntington      ELM Inspector: L. Coman      Boring Method: Direct Push  
 Project Location: Huntington, WV      Total Boring Depth (ft): 4      Sampler Type: Macrocore  
 Project No.: 99184      Depth to Groundwater (ft):      Drilling Contractor: Subsurface, Inc.

| Blow<br>Counts<br>or Rate | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                                                                                                   | Depth<br>ft (0.1) | Sample | PID<br>(ppm) |
|---------------------------|---------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------|--------------|
|                           | 82            |                        | Gy Bl ASPHALT                                                                                                                                   |                   |        | 0            |
|                           |               |                        | Gy Dk c-m-f SAND, little c-m-f Gravel, trace Silt;                                                                                              |                   |        | 8.5          |
|                           |               |                        | Asphalt base; Asphalt odor                                                                                                                      |                   |        | 0            |
|                           |               |                        | Magenta c-m-f SAND, little Clayey Silt compacted;                                                                                               |                   |        | 2.1          |
|                           |               |                        | concrete 1.7, yellow crystals 2.4 - 2.6                                                                                                         |                   |        | 0            |
|                           |               |                        | Purple (violet) c-m-f SAND, some Silt; dry                                                                                                      |                   |        | 0            |
|                           |               |                        |                                                                                                                                                 |                   |        | 11.5         |
|                           |               |                        |                                                                                                                                                 | 4                 |        |              |
|                           |               |                        |                                                                                                                                                 | 8                 |        |              |
|                           |               |                        |                                                                                                                                                 | 12                |        |              |
|                           |               |                        |                                                                                                                                                 | 16                |        |              |
| <u>Notes:</u>             |               |                        | <u>Abbreviation Legend:</u>                                                                                                                     |                   |        |              |
|                           |               |                        | f - fine      Or - Orange<br>m - medium      Gy - Gray<br>c - coarse      Gr - Green<br>Bl - Black      Lt - Light<br>Br - Brown      Dk - Dark |                   |        |              |



## SOIL BORING LOG

Boring No.: **AOC3-06** Date: 6/19/02  
Project Name: BASF Huntington ELM Inspector: L Coman Boring Method: Direct Push  
Project Location: Huntington, WV Total Boring Depth (ft): 4 Sampler Type: 4' Macrocore  
Project No.: 99184 Depth to Groundwater (ft): Drilling Contractor: Subsurface, Inc.

| Blow<br>Counts<br>or Rate | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                                                                                                                                                                | Depth<br>ft (0.1) | Sample | PID<br>(ppm) |
|---------------------------|---------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------|--------------|
|                           | 40            |                        | Lt Gy CONCRETE                                                                                                                                                                                               |                   |        | 0            |
|                           |               |                        | Or Br c-f SAND, trace m-f Gravel trace Silt; bright<br>blue & deep indigo blue staining                                                                                                                      |                   |        | 0            |
|                           |               |                        |                                                                                                                                                                                                              | 4                 |        | 0            |
|                           |               |                        |                                                                                                                                                                                                              | 8                 |        | 0            |
|                           |               |                        |                                                                                                                                                                                                              | 12                |        |              |
|                           |               |                        |                                                                                                                                                                                                              | 16                |        |              |
| <u>Notes:</u>             |               |                        | <u>Abbreviation Legend:</u>                                                                                                                                                                                  |                   |        |              |
|                           |               |                        | f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                  Lt - Light<br>Br - Brown                 Dk - Dark |                   |        |              |



## SOIL BORING LOG

|                                  |                            |                                       |
|----------------------------------|----------------------------|---------------------------------------|
| Boring No.: <b>AOC3-07</b>       | Date: 6/19/02              |                                       |
| Project Name: BASF Huntington    | ELM Inspector: L. Coman    | Boring Method: Direct Push            |
| Project Location: Huntington, WV | Total Boring Depth (ft): 4 | Sampler Type: 4' Macrocore            |
| Project No.: 99184               | Depth to Groundwater (ft): | Drilling Contractor: Subsurface, Inc. |

| Blow<br>Counts<br>or Rate | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                           | Depth<br>ft (0.1)                                                                                                                                                                                          | Sample | PID<br>(ppm) |
|---------------------------|---------------|------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|
|                           | 62.5          |                        | Gy c-m-f GRAVEL, some c-m-f Sand, trace Silt            |                                                                                                                                                                                                            |        | 0            |
|                           |               |                        | Dk Gy c-m-f SAND, little c-m-f Gravel little trace Silt |                                                                                                                                                                                                            |        | 109          |
|                           |               |                        | Light Gy & Tan c-m-f SAND, some c-m-f Gravel            |                                                                                                                                                                                                            |        | 8.6          |
|                           |               |                        |                                                         |                                                                                                                                                                                                            |        | 10.2         |
|                           |               |                        | Dk Br c-m-f SAND, some c-m-f Gravel                     |                                                                                                                                                                                                            |        | 2.8          |
|                           |               |                        |                                                         | 4                                                                                                                                                                                                          |        |              |
|                           |               |                        |                                                         | 8                                                                                                                                                                                                          |        |              |
|                           |               |                        |                                                         | 12                                                                                                                                                                                                         |        |              |
|                           |               |                        |                                                         | 16                                                                                                                                                                                                         |        |              |
| Notes:                    |               |                        |                                                         | Abbreviation Legend:                                                                                                                                                                                       |        |              |
|                           |               |                        |                                                         | f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                 Lt - Light<br>Br - Brown                Dk - Dark |        |              |

# SOIL BORING LOG

Boring No.: **AOC8-01**

Date: 6/18/02

Project Name: BASF Huntington

ELM Inspector: L. Coman

Boring Method: Direct Push

Project Location: Huntington, WV

Total Boring Depth (ft): 4

Sampler Type: Macrocore

Project No.: 99184

Depth to Groundwater (ft):

Drilling Contractor: Subsurface, Inc.

[illegible]

# SOIL BORING LOG

Boring No.: **AOC8-02**

Date: 6/18/02

Project Name: BASF Huntington

ELM Inspector: L. Coman

Boring Method: Direct Push

Project Location: Huntington, WV

Total Boring Depth (ft): 4

Sampler Type: 4' Macrocore

Project No.: 99184

Depth to Groundwater (ft):

Drilling Contractor: Subsurface, Inc.

| Blow<br>Counts<br>or Rate | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                                                                    | Depth<br>ft (0.1) | Sample | PID<br>(ppm) |
|---------------------------|---------------|------------------------|------------------------------------------------------------------------------------------------------------------|-------------------|--------|--------------|
|                           | 90            |                        | Gy c-m-f GRAVEL, some c-m-f Sand, trace Silt<br>Bl SILT, some c-m-f Sand; pieces of coal: primarily<br>coal dust |                   |        | 0<br>0       |
|                           |               |                        | Or Tan Silty CLAY; very dense mottled colors                                                                     |                   |        | 0<br>0       |
|                           |               |                        | Dk Br and Bl c-m-f SAND, little Silt, trace fine<br>Gravel; many pieces of coal fragments                        |                   |        | 0<br>0       |
|                           |               |                        | Or Tan Silty CLAY, trace m-f Sand, trace fine<br>Gravel; slightly dense                                          | 4                 |        | 0            |
|                           |               |                        |                                                                                                                  | 8                 |        |              |
|                           |               |                        |                                                                                                                  | 12                |        |              |
|                           |               |                        |                                                                                                                  | 16                |        |              |

Notes:

Abbreviation Legend:  
f - fine                      Or - Orange  
m - medium                Gy - Gray  
c - coarse                  Gr - Green  
Bl - Black                  Lt - Light  
Br - Brown                Dk - Dark



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# BORING AOC2-01

PAGE 1 OF 1

PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/13/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/13/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563635.391 E521557.876  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-01-7.0 collected 7/13/09 at 12:00 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:35 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                       | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|----------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | GRAVEL (dry) (FILL)                          |               |
| 0         |             |                 |      |            |                 |             |                                              |               |
| 40.2      |             |                 |      |            | 1               |             | Brown, Black f-c SAND, GRAVEL (moist) (FILL) | 1.0           |
| 0         |             |                 |      |            |                 |             |                                              | 1.6           |
| 0         |             |                 |      |            | 2               |             | Black, Dark Gray SILT, some f-c sand (dry)   |               |
| 0         |             |                 |      |            |                 |             |                                              | 2.4           |
| 0         |             | 3.5             | MC 1 |            | 3               |             | Black, Dark Gray CLAY, some f-c sand (moist) |               |
| 0         |             |                 |      |            |                 |             |                                              | 3.5           |
|           |             |                 |      |            | 4               |             | No Recovery                                  |               |
|           |             |                 |      |            |                 |             |                                              | 5.0           |
| 0         |             |                 |      |            | 5               |             | Black f-c SAND, trace gravel (saturated)     |               |
| 0         |             |                 |      |            | 6               |             |                                              |               |
| 0         |             |                 |      |            |                 |             |                                              | 7.0           |
| 0         |             |                 |      |            | 7               |             | Gray CLAY (moist) (soft)                     |               |
| 0         |             |                 |      |            |                 |             |                                              | 8.0           |
| 0         |             | 3               | MC 2 |            | 8               |             | No Recovery                                  |               |
|           |             |                 |      |            | 9               |             |                                              |               |
|           |             |                 |      |            | 10              |             | Bottom of borehole at 10.0 feet.             | 10.0          |





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# BORING AOC2-02

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/13/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/13/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563521.502 E521557.154  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-02-7.0 collected 7/13/09 at 11:40 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:35 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                               | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|------------------------------------------------------|---------------|
| 38        |             |                 |      |            |                 |             | Purple, Blue stained silty CLAY, some f-c sand (wet) |               |
| 0         |             |                 |      |            |                 |             |                                                      |               |
| 156       |             |                 |      |            | 1               |             | Gray silty CLAY (dry)                                | 1.0           |
|           |             |                 |      |            |                 |             | No Recovery                                          | 1.5           |
|           |             | 1.5             | MC 1 |            | 2               |             |                                                      |               |
|           |             |                 |      |            | 3               |             |                                                      |               |
|           |             |                 |      |            | 4               |             |                                                      |               |
| 9         |             |                 |      |            | 5               |             | Black, Blue stained SAND, some silt (wet)            | 5.0           |
| 15        |             |                 |      |            |                 |             |                                                      |               |
| 24.8      |             |                 |      |            | 6               |             | Black, Blue stained silty CLAY (moist)               | 6.1           |
| 18        |             |                 |      |            |                 |             |                                                      |               |
| 0         |             |                 |      |            | 7               |             |                                                      |               |
| 1.2       |             | 3.7             | MC 2 |            |                 |             |                                                      |               |
| 0         |             |                 |      |            | 8               |             | Gray, Brown mottled CLAY, Purple staining (moist)    | 7.8           |
| 0         |             |                 |      |            |                 |             | No Recovery                                          | 8.7           |
|           |             |                 |      |            | 9               |             |                                                      |               |
|           |             |                 |      |            | 10              |             | Bottom of borehole at 10.0 feet.                     | 10.0          |



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# BORING AOC2-03

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/13/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/13/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563508.859 E521616.797  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-03-8.0 collected 7/13/09 at 10:40 for App IX VOCs, SVOCs, PCBs & Metals. Duplicate sample AOC2-21-8.0 collected

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:36 - G:\99184-BASF\_WVBORING LOGS\INTREFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                                       | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|--------------------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                                      | 0.5           |
| 0         |             |                 |      |            |                 |             | GRAVEL (dry) (FILL)                                          | 0.8           |
| 0         |             |                 |      |            | 1               |             | Black, Blue stained SILT, some f-c sand, some gravel (dry)   | 1.4           |
| 0         |             |                 |      |            |                 |             | Gray SAND, some clay (moist)                                 | 1.8           |
|           |             | 1.8             | MC 1 |            | 2               |             | No Recovery                                                  |               |
|           |             |                 |      |            | 3               |             |                                                              |               |
|           |             |                 |      |            | 4               |             |                                                              |               |
| 0         |             |                 |      |            | 5               |             | Blue, Blue stained SAND, trace gravel (wet)                  | 5.0           |
| 0         |             |                 |      |            | 6               |             | Blue, Blue stained silty CLAY, trace f-m sand (moist) (soft) | 6.0           |
| 30        |             |                 |      |            | 7               |             |                                                              |               |
| 18        |             |                 |      |            |                 |             |                                                              |               |
| 9999      |             |                 |      |            | 8               |             | Light Gray CLAY (moist) (soft)                               | 8.1           |
| 7         |             | 4.5             | MC 2 |            | 9               |             |                                                              |               |
| 0         |             |                 |      |            |                 |             |                                                              |               |
| 0         |             |                 |      |            |                 |             |                                                              |               |
| 30        |             |                 |      |            | 10              |             | No Recovery                                                  | 9.5           |
|           |             |                 |      |            |                 |             | Bottom of borehole at 10.0 feet.                             | 10.0          |



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# BORING AOC2-04

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/13/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/13/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563393.124 E521538.709  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-04-7.5 collected 7/13/09 at 13:25 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:36 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                   | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                  |               |
| 0         |             |                 |      |            |                 |             |                                          | 0.5           |
| 0         |             |                 |      |            | 1               |             | Black f-c SAND, trace gravel (moist)     |               |
| 0         |             |                 |      |            | 2               |             |                                          |               |
| 0         |             | 3.8             | MC 1 |            | 3               |             |                                          |               |
| 0         |             |                 |      |            | 4               |             | No Recovery                              | 3.8           |
| 0         |             |                 |      |            | 5               |             | Black f-c SAND, trace gravel (wet)       | 5.0           |
| 0         |             |                 |      |            | 6               |             | Black f-c SAND, trace gravel (saturated) | 6.0           |
| 0         |             |                 |      |            | 7               |             |                                          |               |
| 0         |             | 5               | MC 2 |            | 8               |             |                                          |               |
| 0         |             |                 |      |            | 9               |             |                                          |               |
| 0         |             |                 |      |            | 10              |             | Black CLAY (moist)                       | 9.4           |
|           |             |                 |      |            |                 |             | Bottom of borehole at 10.0 feet.         | 10.0          |



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# BORING AOC2-05

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/14/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/14/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563334.296 E521524.892  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-05-9.5 collected 7/14/09 at 8:25 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:36 - G:\99184-BASF\_WVBORING LOGS\GINT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                   | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                  | 0.5           |
| 0         |             |                 |      |            |                 |             | Brown f-c SAND, some gravel (dry) (FILL) | 0.7           |
| 0         |             |                 |      |            | 1               |             | Brown CLAY (dry)                         |               |
| 0         |             |                 |      |            | 2               |             |                                          |               |
| 0         |             | 2.6             | MC 1 |            |                 |             | Gray, Black stained CLAY (dry)           | 2.4           |
|           |             |                 |      |            |                 |             | No Recovery                              | 2.6           |
|           |             |                 |      |            | 3               |             |                                          |               |
|           |             |                 |      |            | 4               |             |                                          |               |
| 0         |             |                 |      |            | 5               |             | Gray, Black stained CLAY (moist)         | 5.0           |
| 0         |             |                 |      |            | 6               |             |                                          |               |
| 0         |             |                 |      |            | 7               |             |                                          |               |
| 0         |             | 5               | MC 2 |            | 8               |             |                                          |               |
| 0         |             |                 |      |            | 9               |             | Gray, Brown mottled silty CLAY (dry)     | 8.7           |
| 0         |             |                 |      |            | 10              |             | Bottom of borehole at 10.0 feet.         | 10.0          |



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# BORING AOC2-06

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/14/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/14/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563363.983 E521521.516  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-06-9.5 collected 7/14/09 at 8:10 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:36 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                              | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|-----------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                             | 0.5           |
| 0         |             |                 |      |            |                 |             | SAND, GRAVEL, red brick fragments (dry) (FILL)      | 1.0           |
| 0         |             |                 |      |            | 1               |             | Gray, Brown, Black stained CLAY, trace gravel (dry) |               |
| 0         |             |                 |      |            | 2               |             |                                                     |               |
| 0         |             | 4.2             | MC 1 |            | 3               |             |                                                     |               |
| 0         |             |                 |      |            |                 |             | Red, Black stained clayey SILT, some f-m sand (wet) | 3.2           |
| 0         |             |                 |      |            | 4               |             | Gray, Black stained CLAY (moist)                    | 3.8           |
| 0         |             |                 |      |            |                 |             | No Recovery                                         | 4.2           |
| 0         |             |                 |      |            | 5               |             | Gray, Black stained CLAY (moist)                    | 5.0           |
| 0         |             |                 |      |            | 6               |             |                                                     |               |
| 0         |             |                 |      |            | 7               |             |                                                     |               |
| 0         |             | 5               | MC 2 |            | 8               |             | Gray, Gray-Brown, Brown mottled CLAY (dry)          | 7.9           |
| 0         |             |                 |      |            | 9               |             |                                                     |               |
| 0         |             |                 |      |            | 10              |             |                                                     |               |
|           |             |                 |      |            |                 |             | Bottom of borehole at 10.0 feet.                    | 10.0          |



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# BORING AOC2-07

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/13/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/13/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563291.544 E521665.298  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-07-9.0 collected 7/13/09 at 9:15 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:36 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                         | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                        | 0.5           |
| 0         |             |                 |      |            |                 |             | CONCRETE                                       | 1.0           |
| 0         |             |                 |      |            | 1               |             | Gray CLAY (dry)                                | 1.5           |
| 0         |             |                 |      |            |                 |             | Brown CLAY (dry)                               |               |
| 0         |             |                 |      |            | 2               |             |                                                |               |
| 0         |             | 4               | MC 1 |            | 3               |             | Brown silty CLAY (dry)                         | 3.0           |
| 0         |             |                 |      |            | 4               |             | No Recovery                                    | 4.0           |
| 0         |             |                 |      |            | 5               |             | Brown silty CLAY, trace f-m sand (dry) (soft)  | 5.0           |
| 0         |             |                 |      |            | 6               |             |                                                |               |
| 0         |             |                 |      |            | 7               |             |                                                |               |
| 0         |             | 5               | MC 2 |            | 8               |             | Brown silty CLAY, some f-m sand (moist) (soft) | 7.7           |
| 0         |             |                 |      |            |                 |             | Brown, Gray f-c SAND, trace gravel (wet)       | 8.5           |
| 0         |             |                 |      |            | 9               |             | Gray silty CLAY (moist) (soft)                 | 8.9           |
| 0         |             |                 |      |            | 10              |             | Bottom of borehole at 10.0 feet.               | 10.0          |



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# BORING AOC2-08

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/13/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/13/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563280.465 E521701.036  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-08-8.0 collected 7/13/09 at 10:00 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:36 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                                     | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|------------------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                                    |               |
| 0         |             |                 |      |            |                 |             | CONCRETE                                                   | 0.5           |
| 0         |             |                 |      |            | 1               |             | Brown silty CLAY (dry) (soft)                              | 1.0           |
| 0         |             |                 |      |            | 2               |             |                                                            |               |
| 0         |             | 3.5             | MC 1 |            | 3               |             |                                                            |               |
| 0         |             |                 |      |            |                 |             | No Recovery                                                | 3.5           |
| 0         |             |                 |      |            | 4               |             |                                                            |               |
| 0         |             |                 |      |            | 5               |             | Brown, Red stained silty CLAY, trace gravel (moist) (soft) | 5.0           |
| 0         |             |                 |      |            | 6               |             |                                                            |               |
| 0         |             |                 |      |            | 7               |             | Brown f-c SAND, some gravel (wet)                          | 7.0           |
| 0         |             |                 |      |            |                 |             | Brown silty CLAY (wet)                                     | 7.3           |
| 0         |             | 3.5             | MC 2 |            |                 |             | Brown f-c SAND, some gravel (wet)                          | 7.7           |
| 0         |             |                 |      |            | 8               |             | Brown silty CLAY, trace gravel (dry)                       | 8.0           |
| 0         |             |                 |      |            |                 |             | No Recovery                                                | 8.5           |
|           |             |                 |      |            | 9               |             |                                                            |               |
|           |             |                 |      |            | 10              |             | Bottom of borehole at 10.0 feet.                           | 10.0          |



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# BORING AOC2-09

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/14/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/14/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563304.522 E521523.333  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-09-9.5 collected 7/14/09 at 8:40 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:36 - G:\99184-BASF\_WVBORING LOGS\INTREFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                                                | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|-----------------------------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                                               | 0.5           |
| 0         |             |                 |      |            |                 |             | GRAVEL (dry)                                                          | 0.8           |
| 0         |             |                 |      |            | 1               |             | Black stained silty CLAY, trace f-m sand (moist)                      | 1.1           |
| 0         |             |                 |      |            |                 |             | Brown, Brown f-c SAND, trace gravel, red brick fragments (dry) (FILL) |               |
|           |             |                 |      |            | 2               |             | No Recovery                                                           | 2.0           |
|           |             | 2               | MC 1 |            | 3               |             |                                                                       |               |
|           |             |                 |      |            | 4               |             |                                                                       |               |
| 0         |             |                 |      |            | 5               |             | Black stained f-c SAND, some clay (wet)                               | 5.0           |
| 0         |             |                 |      |            |                 |             |                                                                       |               |
| 0         |             |                 |      |            | 6               |             | Gray, Black stained gravelly CLAY (moist)                             | 5.8           |
| 0         |             |                 |      |            |                 |             | Gray, Black stained CLAY (moist)                                      | 6.3           |
| 0         |             |                 |      |            | 7               |             |                                                                       |               |
| 0         |             | 5               | MC 2 |            | 8               |             |                                                                       |               |
| 0         |             |                 |      |            | 9               |             |                                                                       |               |
| 0         |             |                 |      |            |                 |             | Gray, Brown mottled silty CLAY (dry)                                  | 9.3           |
| 0         |             |                 |      |            | 10              |             | Bottom of borehole at 10.0 feet.                                      | 10.0          |





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# BORING AOC2-10

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/10/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/10/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563352.753 E521413.844  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-10-10.0 collected 7/10/09 at 15:00 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:36 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                     | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|--------------------------------------------|---------------|
| 0         |             |                 |      |            | 0               |             | ASPHALT, GRAVEL (dry)                      |               |
| 0         |             |                 |      |            | 1               |             |                                            |               |
| 0         |             |                 |      |            | 2               |             | Brown f-c SAND (dry)                       | 1.9           |
| 0         |             | 3.1             | MC 1 |            | 3               |             | No Recovery                                | 3.1           |
| 0         |             |                 |      |            | 4               |             |                                            |               |
| 0         |             |                 |      |            | 5               |             | Brown f-c SAND (moist at 5.5')             | 5.0           |
| 0         |             |                 |      |            | 6               |             | Red stained f-c SAND, trace gravel (moist) | 6.0           |
| 0         |             |                 |      |            | 7               |             |                                            |               |
| 0         |             | 4.1             | MC 2 |            | 8               |             |                                            |               |
| 0         |             |                 |      |            | 9               |             | No Recovery                                | 9.1           |
| 0         |             |                 |      |            | 10              |             | Red stained f-c SAND, trace gravel (moist) | 10.0          |
| 0         |             |                 |      |            | 11              |             |                                            |               |
| 0         |             |                 |      |            | 12              |             |                                            |               |
| 0         |             | 3.1             | MC 3 |            | 13              |             | No Recovery                                | 13.1          |
| 0         |             |                 |      |            | 14              |             |                                            |               |
| 0         |             |                 |      |            | 15              |             | Bottom of borehole at 15.0 feet.           | 15.0          |



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# BORING AOC2-11

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/10/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/10/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563081.293 E521444.711  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-11-6.5 collected 7/10/09 at 13:55 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:37 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                                      | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|-------------------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                                     | 0.5           |
| 0         |             |                 |      |            |                 |             | GRAVEL (dry)                                                | 1.0           |
| 0         |             |                 |      |            | 1               |             | Black, Brown CLAY, some f-c sand, trace gravel (dry) (FILL) | 1.9           |
| 0         |             |                 |      |            | 2               |             | Brown, Gray silty CLAY, trace gravel (dry)                  | 4.0           |
| 0         |             | 4.3             | MC 1 |            | 3               |             |                                                             | 4.3           |
| 0         |             |                 |      |            | 4               |             | Brown f-c SAND, some silt (dry)                             | 5.0           |
| 0         |             |                 |      |            |                 |             | No Recovery                                                 | 5.5           |
| 0         |             |                 |      |            | 5               |             | Gray CLAY (moist) (soft)                                    | 6.5           |
| 0         |             |                 |      |            | 6               |             | Brown silty CLAY, some f-c sand, trace gravel (dry)         | 7.3           |
| 0         |             |                 |      |            | 7               |             | Brown f-c SAND (dry)                                        | 7.3           |
| 0         |             |                 |      |            |                 |             | No Recovery                                                 | 10.0          |
| 0         |             | 2.3             | MC 2 |            | 8               |             |                                                             |               |
| 0         |             |                 |      |            | 9               |             |                                                             |               |
| 0         |             |                 |      |            | 10              |             | Bottom of borehole at 10.0 feet.                            |               |



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# BORING AOC2-12

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/10/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/10/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563032.417 E521472.589  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-12-9.0 collected 7/10/09 at 13:30 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWN01.GDT - 5/14/10 09:37 - G:\99184-BASF\_WVBORING LOGS\INTREFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                         | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                        | 0.5           |
| 0         |             |                 |      |            |                 |             | GRAVEL                                         | 0.7           |
| 0         |             |                 |      |            | 1               |             | Brown, Tan, Gray mottled CLAY (dry)            |               |
| 0         |             |                 |      |            | 2               |             |                                                |               |
| 0         |             | 3.7             | MC 1 |            | 3               |             |                                                |               |
| 0         |             |                 |      |            | 4               |             | No Recovery                                    | 3.7           |
| 0         |             |                 |      |            | 5               |             | Brown, Tan, Gray mottled CLAY (dry)            | 5.0           |
| 0         |             |                 |      |            | 6               |             |                                                |               |
| 0         |             |                 |      |            | 7               |             | Brown silty CLAY (dry) (soft)                  | 6.5           |
| 0         |             | 4.5             | MC 2 |            | 8               |             | Brown silty SAND (moist)                       | 8.2           |
| 0         |             |                 |      |            | 9               |             | Brown silty CLAY, some f-m sand (moist) (soft) | 8.7           |
| 0         |             |                 |      |            | 9               |             |                                                | 9.5           |
| 0         |             |                 |      |            | 10              |             | No Recovery                                    | 10.0          |
|           |             |                 |      |            |                 |             | Bottom of borehole at 10.0 feet.               |               |



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# BORING AOC2-13

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/10/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/10/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563019.341 E521559.091  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-13-7.0 collected 7/10/09 at 11:15 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:37 - G:\99184-BASF\_WVBORING LOGS\GINT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                   | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                  |               |
| 0         |             |                 |      |            |                 |             |                                          | 0.8           |
| 0         |             |                 |      |            | 1               |             | Brown f-c SAND, GRAVEL (dry) (FILL)      | 1.2           |
| 0         |             |                 |      |            |                 |             | Brown CLAY, (dry) (firm)                 |               |
| 0         |             |                 |      |            | 2               |             |                                          | 2.2           |
| 0         |             | 3.7             | MC 1 |            |                 |             | Brown f-c SAND, some silt and clay (dry) | 2.7           |
| 0         |             |                 |      |            | 3               |             | Brown silty CLAY (dry)                   |               |
| 0         |             |                 |      |            |                 |             |                                          | 3.7           |
| 0         |             |                 |      |            | 4               |             | No Recovery                              |               |
| 0         |             |                 |      |            |                 |             |                                          | 5.0           |
| 0         |             |                 |      |            | 5               |             | Brown CLAY, some f-c sand (moist) (soft) |               |
| 0         |             |                 |      |            | 6               |             |                                          |               |
| 0         |             |                 |      |            | 7               |             |                                          |               |
| 0         |             | 4.8             | MC 2 |            |                 |             |                                          |               |
| 0         |             |                 |      |            | 8               |             |                                          |               |
| 0         |             |                 |      |            | 9               |             |                                          |               |
| 0         |             |                 |      |            |                 |             |                                          | 9.8           |
| 0         |             |                 |      |            | 10              |             | No Recovery                              | 10.0          |
|           |             |                 |      |            |                 |             | Bottom of borehole at 10.0 feet.         |               |



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# BORING AOC2-14

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/10/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/10/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1562977.208 E521463.909  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-14-9.0 collected 7/10/09 at 10:35 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:37 - G:\99184-BASF\_WVBORING LOGS\GINT\RF1\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION           | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|----------------------------------|---------------|
|           |             |                 |      |            |                 |             | ASPHALT                          |               |
|           |             |                 |      |            | 1               |             | No Recovery                      | 0.8           |
|           |             | 0               | MC 1 |            | 2               |             |                                  |               |
|           |             |                 |      |            | 3               |             |                                  |               |
|           |             |                 |      |            | 4               |             |                                  |               |
| 0         |             |                 |      |            | 5               |             | CONCRETE, GRAVEL (dry) (FILL)    | 5.0           |
| 0         |             |                 |      |            | 6               |             | Brown f-c SAND (dry)             | 5.7           |
| 0         |             |                 |      |            | 7               |             | Brown clayey SILT (moist)        | 6.6           |
| 0         |             | 4.7             | MC 2 |            | 8               |             |                                  |               |
| 0         |             |                 |      |            | 9               |             | Brown silty CLAY (moist) (soft)  | 8.4           |
| 0         |             |                 |      |            | 10              |             | No Recovery                      | 9.7           |
| 0         |             |                 |      |            | 11              |             | Brown f-c SAND (moist)           | 10.0          |
| 0         |             |                 |      |            | 12              |             | Brown silty CLAY (moist) (soft)  | 10.7          |
| 0         |             | 2.7             | MC 3 |            | 13              |             | No Recovery                      | 12.7          |
| 0         |             |                 |      |            | 14              |             |                                  |               |
| 0         |             |                 |      |            | 15              |             | Bottom of borehole at 15.0 feet. | 15.0          |



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# BORING AOC2-15

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/10/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/10/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1562862.049 E521439.664  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-15-11.0 collected 7/10/09 at 10:00 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:37 - G:\99184-BASF\_WVBORING LOGS\GINT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                           | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|--------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                          | 0.4           |
| 0         |             |                 |      |            |                 |             | GRAVEL (dry)                                     | 0.9           |
| 0         |             |                 |      |            | 1               |             | Black f-c SAND (dry) (FILL)                      | 1.6           |
| 0         |             | 1.6             | MC 1 |            | 2               |             | No Recovery                                      |               |
|           |             |                 |      |            | 3               |             |                                                  |               |
|           |             |                 |      |            | 4               |             |                                                  |               |
| 0         |             |                 |      |            | 5               |             | Brown, Gray CLAY (moist) (soft)                  | 5.0           |
| 0         |             |                 |      |            | 6               |             | Black f-c SAND (moist) (FILL)                    | 5.8           |
| 0         |             |                 |      |            |                 |             | No Recovery                                      | 6.1           |
|           |             |                 |      |            | 7               |             |                                                  |               |
|           |             | 1.1             | MC 2 |            | 8               |             |                                                  |               |
|           |             |                 |      |            | 9               |             |                                                  |               |
| 0         |             |                 |      |            | 10              |             | Orange-Brown, Brown, Gray CLAY (moist) (soft)    | 10.0          |
| 0         |             |                 |      |            |                 |             |                                                  | 10.6          |
| 0         |             |                 |      |            | 11              |             | Brown, Gray, Gray-Brown mottled silty CLAY (dry) |               |
| 0         |             |                 |      |            |                 |             |                                                  | 11.8          |
| 0         |             |                 |      |            | 12              |             | Brown silty CLAY (dry)                           | 12.3          |
| 0         |             | 2.7             | MC 3 |            |                 |             | Brown f-c SAND (dry)                             | 12.7          |
| 0         |             |                 |      |            | 13              |             | No Recovery                                      |               |
|           |             |                 |      |            | 14              |             |                                                  |               |
|           |             |                 |      |            | 15              |             | Bottom of borehole at 15.0 feet.                 | 15.0          |



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# BORING AOC2-16

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/10/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/10/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1562743.589 E521411.997  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-16-10.0 collected 7/10/09 at 8:55 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:37 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                               | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|------------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | TOP SOIL, Grass, Root layer                          | 0.5           |
| 0         |             |                 |      |            | 1               |             | Brown SILT, some f-c sand, trace gravel (dry)        |               |
| 0         |             |                 |      |            | 2               |             |                                                      |               |
| 0         |             | 2.6             | MC 1 |            | 3               |             | No Recovery                                          | 2.6           |
| 0         |             |                 |      |            | 4               |             |                                                      |               |
| 0         |             |                 |      |            | 5               |             | Gray, Black CLAY (moist) (soft)                      | 5.0           |
| 0         |             |                 |      |            | 6               |             |                                                      |               |
| 0         |             |                 |      |            | 7               |             | Light Gray, Brown CLAY (moist) (soft)                | 6.8           |
| 0         |             | 3.5             | MC 2 |            | 8               |             | Gray silty CLAY (dry) (firm)                         | 7.8           |
| 0         |             |                 |      |            | 9               |             | No Recovery                                          | 8.5           |
| 0         |             |                 |      |            | 10              |             | Gray-Brown, Gray CLAY (moist) (soft)                 | 10.0          |
| 0         |             |                 |      |            | 11              |             | Brown, Orange-Brown, Gray mottled silty CLAY (dry)   | 11.0          |
| 0         |             |                 |      |            | 12              |             |                                                      |               |
| 0         |             | 4.5             | MC 3 |            | 13              |             |                                                      |               |
| 0         |             |                 |      |            | 14              |             | Brown, Orange-Brown mottled clayey SILT (dry) (soft) | 14.3          |
| 0         |             |                 |      |            | 15              |             | No Recovery                                          | 14.5          |
|           |             |                 |      |            |                 |             | Bottom of borehole at 15.0 feet.                     | 15.0          |



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# BORING AOC2-17

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/9/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/9/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1562643.75 E521391.452  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-17-11.0 collected 7/9/09 at 17:10 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:37 - G:\99184-BASF\_WVBORING LOGS\GINT\RF1\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                         | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | TOP SOIL, Grass, Root layer                    | 0.3           |
| 0         |             |                 |      |            | 1               |             | Brown, Gray silty CLAY, trace f-c sand (moist) | 1.3           |
| 0         |             | 1.3             | MC 1 |            | 2               |             | No Recovery                                    |               |
|           |             |                 |      |            | 3               |             |                                                |               |
|           |             |                 |      |            | 4               |             |                                                |               |
| 0         |             |                 |      |            | 5               |             | Brown f-c SAND (wet)                           | 5.0           |
| 0         |             |                 |      |            | 6               |             | Gray, Gray-Brown CLAY, some silt (moist)       | 5.8           |
| 0         |             |                 |      |            |                 |             | Black, Gray f-c SAND (wet)                     | 6.1           |
|           |             |                 |      |            |                 |             | Black, Orange-Brown mottled CLAY (dry)         | 6.3           |
|           |             |                 |      |            | 7               |             | No Recovery                                    | 6.5           |
|           |             | 1.5             | MC 2 |            | 8               |             |                                                |               |
|           |             |                 |      |            | 9               |             |                                                |               |
| 0         |             |                 |      |            | 10              |             | Brown f-c SAND (wet)                           | 10.0          |
| 0         |             |                 |      |            | 11              |             |                                                |               |
| 0         |             |                 |      |            | 12              |             | Gray, Gray-Brown silty CLAY (wet) (soft)       | 11.8          |
| 0         |             | 3.2             | MC 3 |            | 13              |             | No Recovery                                    | 13.2          |
| 0         |             |                 |      |            | 14              |             |                                                |               |
| 0         |             |                 |      |            | 15              |             | Bottom of borehole at 15.0 feet.               | 15.0          |





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# BORING AOC2-18

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/9/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/9/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1562577.397 E521375.349  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-18-11.0 collected 7/9/09 at 16:20 for App IX VOCs, SVOCs, PCBs & Metals. Refusal at 13 ft.

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:37 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                                 | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|--------------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | TOP SOIL, Grass, Root layer                            | 0.5           |
| 0         |             |                 |      |            | 1               |             | Red-Brown SILT, trace clay, trace f-m sand (dry)       | 1.0           |
| 0         |             |                 |      |            |                 |             | Br SILT, s f-c sand, s clay (dry)                      |               |
| 0         |             |                 |      |            | 2               |             | CONCRETE (dry) (FILL)                                  | 2.0           |
| 0         |             | 2.5             | MC 1 |            |                 |             | Brown CLAY, some sand, some silt (moist)               | 2.2           |
|           |             |                 |      |            |                 |             | No Recovery                                            | 2.5           |
|           |             |                 |      |            | 3               |             |                                                        |               |
|           |             |                 |      |            | 4               |             |                                                        |               |
| 0         |             |                 |      |            | 5               |             | Brown CLAY, some sand, some silt, trace gravel (moist) | 5.0           |
| 0         |             |                 |      |            | 6               |             |                                                        |               |
| 0         |             |                 |      |            | 7               |             | No Recovery                                            | 7.2           |
| 0         |             | 2.2             | MC 2 |            | 8               |             |                                                        |               |
|           |             |                 |      |            | 9               |             |                                                        |               |
| 20.2      |             |                 |      |            | 10              |             | Black, Purple staining f-c SAND, some silt (saturated) | 10.0          |
| 0         |             |                 |      |            | 11              |             |                                                        |               |
| 74.5      |             |                 |      |            |                 |             |                                                        |               |
| 0         |             | 2.3             | MC 3 |            | 12              |             | No Recovery                                            | 12.3          |
| 100       |             |                 |      |            |                 |             |                                                        |               |
| 126       |             |                 |      |            | 13              |             | Bottom of borehole at 13.0 feet.                       | 13.0          |



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# BORING AOC2-19

PAGE 1 OF 1

PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/9/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/9/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1562596.278 E521303.575  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC2-19-10.0 collected 7/9/09 at 15:30 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:37 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                                                   | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|--------------------------------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | CONCRETE                                                                 | 0.5           |
| 0         |             |                 |      |            | 1               |             | Black SILT, some f-c sand, trace gravel (dry) (FILL)                     | 1.0           |
| 0         |             |                 |      |            |                 |             | Brown f-c SAND, some silt (dry)                                          | 1.8           |
| 0         |             | 4.5             | MC 1 |            | 2               |             | Brown, Back stained SILT, some f-c sand, some clay (dry)                 |               |
| 0         |             |                 |      |            | 3               |             |                                                                          |               |
| 0         |             |                 |      |            | 4               |             |                                                                          | 4.2           |
| 0         |             |                 |      |            |                 |             | Green-Brown, Gray CLAY (dry)                                             | 4.5           |
| 0         |             |                 |      |            |                 |             | No Recovery                                                              | 5.0           |
| 0         |             |                 |      |            | 5               |             | Brown, Gray, Gray-Brown silty CLAY, some f-c sand (dry)                  |               |
| 0         |             |                 |      |            | 6               |             | CONCRETE                                                                 | 6.0           |
| 0         |             |                 |      |            |                 |             | Brown, Red-Brown, Gray mottled silty CLAY, trace f-m sand (moist) (soft) | 6.3           |
| 0         |             | 3               | MC 2 |            | 7               |             |                                                                          |               |
| 0         |             |                 |      |            | 8               |             | No Recovery                                                              | 8.0           |
| 0         |             |                 |      |            | 9               |             |                                                                          |               |
| 0         |             |                 |      |            | 10              |             | Black CLAY (moist) (soft)                                                | 10.0          |
| 0         |             |                 |      |            |                 |             |                                                                          | 10.8          |
| 0         |             |                 |      |            | 11              |             | Green-Brown, Gray CLAY (moist)                                           |               |
| 0         |             |                 |      |            |                 |             | Gray, Orange-Brown mottled silty CLAY (dry) (firm)                       | 11.5          |
| 0         |             | 2.6             | MC 3 |            | 12              |             |                                                                          | 12.6          |
| 0         |             |                 |      |            |                 |             | No Recovery                                                              |               |
| 0         |             |                 |      |            | 13              |             |                                                                          |               |
| 0         |             |                 |      |            | 14              |             |                                                                          |               |
| 0         |             |                 |      |            | 15              |             | Bottom of borehole at 15.0 feet.                                         | 15.0          |



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# BORING AOC5-01

PAGE 1 OF 1

PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/9/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/9/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1562830.688 E521344.156  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC5-01-20.0 collected 7/9/09 at 11:30 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWN01.GDT - 5/14/10 09:37 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                               | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|------------------------------------------------------|---------------|
| 0         |             |                 |      |            | 0               |             | Concrete and gravel (dry)                            | 0.6           |
| 0         |             |                 |      |            | 1               |             | Brown, Black GRAVEL, SAND and Gray CLAY (wet) (FILL) | 1.6           |
| 0         |             | 1.5             | MC 1 |            | 2               |             | No Recovery                                          |               |
|           |             |                 |      |            | 3               |             |                                                      |               |
|           |             |                 |      |            | 4               |             |                                                      |               |
|           |             |                 |      |            | 5               |             | Black GRAVEL, sand and clay (saturated)              | 5.0           |
| 0         |             |                 |      |            | 6               |             | Black CLAY (saturated) (soft)                        | 6.2           |
| 0         |             | 2.5             | MC 2 |            | 7               |             | Brown, Orange-Brown, Gray mottled silty CLAY (dry)   | 7.2           |
| 0         |             |                 |      |            | 8               |             | No Recovery                                          | 7.6           |
|           |             |                 |      |            | 9               |             |                                                      |               |
|           |             |                 |      |            | 10              |             | Gray, Gray-Brown silty CLAY, some f-m sand (moist)   | 10.0          |
| 0         |             |                 |      |            | 11              |             |                                                      |               |
| 0         |             | 2.5             | MC 3 |            | 12              |             | No Recovery                                          | 12.6          |
|           |             |                 |      |            | 13              |             |                                                      |               |
|           |             |                 |      |            | 14              |             |                                                      |               |
| 0         |             |                 |      |            | 15              |             | Gray SILT, some f-c sand (wet) (soft)                | 15.0          |
| 0         |             |                 |      |            | 16              |             |                                                      |               |
| 0         |             | 3               | MC 4 |            | 17              |             | Gray SILT, some f-c sand, some clay (moist)          | 17.0          |
| 0         |             |                 |      |            | 18              |             | No Recovery                                          | 18.0          |
| 0         |             |                 |      |            | 19              |             |                                                      |               |
| 0         |             |                 |      |            | 20              |             | Gray SILT, some sand, some clay (wet)                | 20.0          |
| 0         |             |                 |      |            | 21              |             | Orange-Brown, Gray f-c SAND (wet)                    | 20.7          |
| 0         |             | 1.5             | MC 5 |            | 22              |             | No Recovery                                          | 21.5          |
| 0         |             |                 |      |            | 23              |             |                                                      |               |
| 0         |             |                 |      |            | 24              |             |                                                      |               |
| 0         |             |                 |      |            | 25              |             | Bottom of borehole at 25.0 feet.                     | 25.0          |



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# BORING AOC5-02

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**PROJECT NAME** Former BASF Huntington Works Facility **DATE STARTED** 7/9/09  
**PROJECT NUMBER** 099184 **DATE COMPLETED** 7/9/09  
**LOCATION** 5th Avenue & 24th Street Huntington West Virginia **GPS COORDINATES** N1562854.866 E521376.92  
**DRILLING METHOD** Direct Push **DEPTH TO WATER (ft BGS)** Not Encountered  
**BOREHOLE DIAMETER** 2-inch **DRILLING CONTRACTOR** Subsurface, Inc.  
**SAMPLING METHOD** Macrocore / Split Spoon  
**LOGGED BY** Brad Mescavage  
**REMARKS** Sample AOC5-02-20.0 collected 7/9/09 at 10:45 for App IX VOCs, SVOCs, PCBs & Metals. Duplicate sample AOC5-07-20.0 also collected.

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:37 - G:\99184-BASF\_WVBORING LOGS\INTREF1\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                                             | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|--------------------------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | GRAVEL                                                             | 0.5           |
| 0         |             |                 |      |            | 1               |             | Brown silty CLAY, some f-c sand, some gravel (dry) (FILL)          | 1.4           |
| 0         |             |                 |      |            | 2               |             | Black GRAVEL, slag fragments (dry) (FILL)                          | 1.6           |
| 0         |             | 2.5             | MC 1 |            | 3               |             | Gray, Gray-Brown silty CLAY, trace gravel (moist)                  | 2.7           |
|           |             |                 |      |            | 4               |             | No Recovery                                                        |               |
|           |             |                 |      |            | 5               |             |                                                                    | 5.0           |
| 0         |             |                 |      |            | 6               |             | Gray silty CLAY, trace f-m sand (moist)                            |               |
| 0         |             | 2               | MC 2 |            | 7               |             | No Recovery                                                        | 7.0           |
|           |             |                 |      |            | 8               |             |                                                                    |               |
|           |             |                 |      |            | 9               |             |                                                                    |               |
| 0         |             |                 |      |            | 10              |             | Gray-Brown, Oanger-Brown mottled Black stained CLAY (moist) (soft) | 10.0          |
| 0         |             |                 |      |            | 11              |             | Orange-Brown, Gray mottled CLAY (dry) (firm)                       | 10.9          |
| 0         |             |                 |      |            | 12              |             |                                                                    |               |
| 0         |             | 5               | MC 3 |            | 13              |             |                                                                    |               |
| 0         |             |                 |      |            | 14              |             | Gray, Orange-Brown, Brown mottled silty CLAY (dry) (firm)          | 14.0          |
| 0         |             |                 |      |            | 15              |             | Orange-Brown, Gray, Brown, Black stained CLAY (moist) (soft)       | 15.0          |
| 0         |             |                 |      |            | 16              |             |                                                                    |               |
| 0         |             |                 |      |            | 17              |             |                                                                    |               |
| 0         |             | 3.5             | MC 4 |            | 18              |             | Gray, Green-Brown silty CLAY, trace f-m sand (moist) (soft)        | 17.4          |
| 0         |             |                 |      |            | 19              |             | No Recovery                                                        | 18.4          |
| 0         |             |                 |      |            | 20              |             |                                                                    | 20.0          |
| 0         |             |                 |      |            | 21              |             | Orange-Brown, Brown, Gray mottled CLAY, some silt (moist) (soft)   |               |
| 0         |             |                 |      |            | 22              |             | Green-Brown, Gray silty SAND (moist) (soft)                        | 21.3          |
| 0         |             | 3.5             | MC 5 |            | 23              |             | Gray silty CLAY (moist) (soft)                                     | 21.6          |
| 0         |             |                 |      |            | 24              |             | Gray, Brown, Orange-Brown f-c SAND (moist)                         | 22.5          |
| 0         |             |                 |      |            | 25              |             | No Recovery                                                        | 23.5          |
|           |             |                 |      |            |                 |             |                                                                    | 25.0          |
|           |             |                 |      |            |                 |             | Bottom of borehole at 25.0 feet.                                   |               |



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# BORING AOC5-03

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/9/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/9/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1562841.478 E521382.889  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC5-03-20.0 collected 7/9/09 at 10:05 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:37 - G:\99184-BASF\_WVBORING LOGS\INTREFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                                         | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|----------------------------------------------------------------|---------------|
| 0         |             |                 |      |            | 1               |             | Gray CLAY, some gravel, some f-c sand (dry) (FILL)             | 1.0           |
| 0         |             |                 |      |            | 2               |             | Brown, Gray CLAY, some f-c sand (moist) (soft)                 | 2.0           |
| 0         |             | 2.5             | MC 1 |            | 2.4             |             | Brown, Gray-Brown silty CLAY, some f-c sand (moist) (soft)     | 2.4           |
|           |             |                 |      |            | 3               |             | No Recovery                                                    |               |
|           |             |                 |      |            | 4               |             |                                                                |               |
|           |             |                 |      |            | 5               |             | Brown, Green-Brown CLAY (moist) (soft)                         | 5.0           |
| 0         |             |                 |      |            | 6               |             |                                                                | 6.6           |
| 0         |             | 2.5             | MC 2 |            | 7               |             | Black stained CLAY (moist) (soft)                              | 7.4           |
| 0         |             |                 |      |            | 8               |             | No Recovery                                                    |               |
| 0         |             |                 |      |            | 9               |             |                                                                |               |
| 0         |             |                 |      |            | 10              |             | Green-Brown, Black stained CLAY, trace f-c sand (moist) (soft) | 10.0          |
| 0         |             |                 |      |            | 11              |             | Brown, Green-Brown, Gray, Black CLAY, some gravel (wet)        | 11.1          |
| 0         |             | 2.5             | MC 3 |            | 12              |             |                                                                | 12.3          |
|           |             |                 |      |            | 13              |             | No Recovery                                                    |               |
|           |             |                 |      |            | 14              |             |                                                                |               |
| 0         |             |                 |      |            | 15              |             | Green-Brown, Gray, Black stained CLAY (moist) (soft)           | 15.0          |
| 0         |             |                 |      |            | 16              |             |                                                                |               |
| 0         |             | 2.5             | MC 4 |            | 17              |             | Brown, Orange-Brown mottled CLAY, some silt (moist)            | 17.4          |
| 0         |             |                 |      |            | 18              |             | No Recovery                                                    | 17.8          |
| 0         |             |                 |      |            | 19              |             |                                                                |               |
|           |             |                 |      |            | 20              |             | Orange-Brown, Tan, Brown f-c SAND (moist)                      | 20.0          |
| 0         |             |                 |      |            | 21              |             |                                                                |               |
| 0         |             | 2.5             | MC 5 |            | 22              |             |                                                                | 22.6          |
|           |             |                 |      |            | 23              |             | No Recovery                                                    |               |
|           |             |                 |      |            | 24              |             |                                                                |               |
|           |             |                 |      |            | 25              |             | Bottom of borehole at 25.0 feet.                               | 25.0          |



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# BORING AOC5-04

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/9/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/9/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1562816.141 E521377.991  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC5-04-21.0 collected 7/9/09 at 9:30 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:37 - G:\99184-BASF\_WVBORING LOGS\INT\RF1\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                                                      | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|-----------------------------------------------------------------------------|---------------|
| 0         |             |                 |      |            | 0               |             | GRAVEL (dry) (FILL)                                                         | 0.5           |
| 0         |             |                 |      |            | 1               |             | Brown f-c SAND, little Silt, trace gravel (dry)                             | 1.8           |
| 0         |             |                 |      |            | 2               |             | CONCRETE (dry) (FILL)                                                       | 1.9           |
| 0         |             | 3               | MC 1 |            | 2.7             |             | Brown, Gray-Brown CLAY (moist) (soft)                                       | 2.7           |
| 0         |             |                 |      |            | 2.9             |             | Brown, Black f-c SAND, slag fragments (dry) (FILL)                          | 2.9           |
| 0         |             |                 |      |            | 3.0             |             | No Recovery                                                                 | 3.0           |
| 0         |             |                 |      |            | 4               |             | No Recovery                                                                 | 5.0           |
| 0         |             |                 |      |            | 5               |             | Brown, Gray-Brown CLAY (moist) (soft)                                       | 5.5           |
| 0         |             |                 |      |            | 6               |             | Brown f-c SAND, trace gravel (dry)                                          | 6.0           |
| 0         |             |                 |      |            | 7               |             | No Recovery                                                                 | 6.0           |
| 0         |             | 1               | MC 2 |            | 8               |             | Brown, Gray-Brown, Orange-Brown mottled CLAY, trace f-m SAND (moist) (soft) | 10.0          |
| 0         |             |                 |      |            | 11              |             | Brown CLAY, trace f-m sand (moist) (soft)                                   | 11.0          |
| 0         |             |                 |      |            | 11.8            |             | Black stained CLAY (moist) (soft)                                           | 11.8          |
| 0         |             |                 |      |            | 12.0            |             | Brown f-c SAND (dry)                                                        | 12.0          |
| 0         |             |                 |      |            | 12.2            |             | Brown, Orange-Brown, Gray mottled CLAY (dry) (firm)                         | 12.2          |
| 0         |             |                 |      |            | 12.8            |             | Gray silty CLAY (moist) (soft)                                              | 12.8          |
| 0         |             |                 |      |            | 14              |             | Brown, Orange-Brown, Black mottled CLAY (moist) (soft)                      | 16.5          |
| 0         |             |                 |      |            | 16              |             | Brown f-c SAND, trace gravel (dry)                                          | 16.7          |
| 0         |             |                 |      |            | 17              |             | Gray silty CLAY, trace f-m sand (dry to moist)                              | 16.7          |
| 0         |             | 3.5             | MC 4 |            | 18              |             | No Recovery                                                                 | 18.5          |
| 0         |             |                 |      |            | 19              |             | No Recovery                                                                 | 20.0          |
| 0         |             |                 |      |            | 20              |             | Gray, Brown, Orange-Brown mottled CLAY, sand lens at bottom (moist) (soft)  | 20.0          |
| 0         |             |                 |      |            | 21              |             | Orange-Brown, mottled gray CLAY, some f-c sand (moist to dry)               | 21.3          |
| 0         |             |                 |      |            | 22              |             | Orange-Brown f-c SAND (dry)                                                 | 22.2          |
| 0         |             |                 |      |            | 23              |             | No Recovery                                                                 | 23.0          |
| 0         |             |                 |      |            | 24              |             | No Recovery                                                                 | 25.0          |
| 0         |             |                 |      |            | 25              |             | Bottom of borehole at 25.0 feet.                                            | 25.0          |



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# BORING AOC5-05

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/9/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/9/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1562688.781 E521267.574  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC5-05-22.0 collected 7/9/09 at 14:40 and AOC2-20-9.5 collected at 14:25 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:37 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                              | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|-----------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                             | 0.4           |
| 0         |             |                 |      |            | 1               |             | Black, Brown SAND, GRAVEL (dry) (FILL)              | 0.6           |
| 0         |             |                 |      |            |                 |             | Brown silty CLAY, some f-c sand, trace gravel (dry) |               |
| 0         |             | 4               | MC 1 |            | 2               |             |                                                     |               |
| 0         |             |                 |      |            | 3               |             | Gray silty CLAY, trace f-m sand (moist)             | 3.0           |
| 0         |             |                 |      |            | 4               |             | No Recovery                                         | 4.1           |
| 0         |             |                 |      |            | 5               |             |                                                     | 5.0           |
| 0         |             |                 |      |            |                 |             | Gray silty CLAY, some f-c sand (moist)              |               |
| 0         |             | 1.5             | MC 2 |            | 6               |             |                                                     |               |
| 0         |             |                 |      |            | 7               |             | Gray silty CLAY (moist)                             | 7.0           |
| 0         |             |                 |      |            | 8               |             |                                                     |               |
| 0         |             |                 |      |            | 9               |             |                                                     |               |
| 0         |             |                 |      |            | 10              |             | Gray, Gray-Brown silty CLAY, some f-c sand (wet)    | 10.0          |
| 0         |             |                 |      |            | 11              |             |                                                     | 11.6          |
| 0         |             |                 |      |            | 12              |             | Brown, Black f-c SAND, terracotta fragments (FILL)  | 11.8          |
| 0         |             | 2.5             | MC 3 |            |                 |             | Gray, Gray-Brown silty CLAY (dry)                   | 12.5          |
| 0         |             |                 |      |            | 13              |             | No Recovery                                         |               |
| 0         |             |                 |      |            | 14              |             |                                                     |               |
| 0         |             |                 |      |            | 15              |             | Gray, Gray-Brown silty CLAY (dry)                   | 15.0          |
| 0         |             |                 |      |            | 16              |             | No Recovery                                         | 16.0          |
| 0         |             |                 |      |            | 17              |             |                                                     |               |
| 0         |             | 1               | MC 4 |            | 18              |             |                                                     |               |
| 0         |             |                 |      |            | 19              |             |                                                     |               |
| 0         |             |                 |      |            | 20              |             | Gray silty CLAY (saturated)                         | 20.0          |
| 0         |             |                 |      |            | 21              |             | Gray silty CLAY, some gravel, some sand (saturated) | 21.2          |
| 0         |             |                 |      |            | 22              |             | Orange-Brown silty SAND (dry)                       | 22.0          |
| 0         |             | 3               | MC 5 |            | 23              |             |                                                     | 23.3          |
| 0         |             |                 |      |            | 24              |             | No Recovery                                         |               |
| 0         |             |                 |      |            | 25              |             | Bottom of borehole at 25.0 feet.                    | 25.0          |



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# BORING AOC5-06

PAGE 1 OF 1

PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/9/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/9/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1562726.567 E521261.252  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC5-06-20.0 collected 7/9/09 at 12:45 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:37 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                                             | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|--------------------------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | CONCRETE, GRAVEL, SAND (dry) (FILL)                                | 0.6           |
| 0         |             |                 |      |            | 1               |             | Brown SAND, some gravel (dry) (FILL)                               |               |
| 0         |             |                 |      |            |                 |             |                                                                    | 1.6           |
| 0         |             |                 |      |            | 2               |             | Black f-c SAND, trace gravel (dry)                                 | 2.3           |
| 0         |             | 2.5             | MC 1 |            | 3               |             | No Recovery                                                        |               |
|           |             |                 |      |            | 4               |             |                                                                    |               |
|           |             |                 |      |            | 5               |             | Gray, Gray-Brown SILT, some f-c sand, some clay (mosit) (soft)     | 5.0           |
| 0         |             |                 |      |            | 6               |             | Brown CLAY, trace silt (moist) (soft)                              | 5.7           |
| 0         |             |                 |      |            | 7               |             | Gray silty CLAY (moist) (soft)                                     | 7.0           |
| 0         |             | 2.5             | MC 2 |            | 8               |             | No Recovery                                                        | 7.4           |
| 0         |             |                 |      |            | 9               |             |                                                                    |               |
| 0         |             |                 |      |            | 10              |             | Gray silty CLAY (moist) (soft)                                     | 10.0          |
| 0         |             |                 |      |            | 11              |             |                                                                    | 11.4          |
| 0         |             |                 |      |            | 12              |             | Gray silty CLAY (moist) (firm)                                     | 12.6          |
| 0         |             | 5               | MC 3 |            | 13              |             | Gray, Orange-Brown mottled clayey SILT (dry) (firm)                |               |
| 0         |             |                 |      |            | 14              |             |                                                                    |               |
| 0         |             |                 |      |            | 15              |             | Brown, tan, Orange-Brown silty CLAY (moist) (soft)                 | 15.0          |
| 0         |             |                 |      |            | 16              |             |                                                                    | 16.5          |
| 0         |             |                 |      |            | 17              |             | Brown, Gray, Red-Brown mottled silty CLAY, trace f-m sand (dry)    |               |
| 0         |             | 4.5             | MC 4 |            | 18              |             |                                                                    |               |
| 0         |             |                 |      |            | 19              |             |                                                                    | 19.5          |
| 0         |             |                 |      |            | 20              |             | No Recovery                                                        | 20.0          |
| 0         |             |                 |      |            | 21              |             | Brown, Orange-Brown, Gray mottled silty CLAY, trace f-m sand (dry) | 21.0          |
| 0         |             |                 |      |            | 22              |             | Brown SAND, some silt, trace clay (dry)                            | 21.5          |
| 0         |             |                 |      |            | 23              |             | Orange-Brown f-m SAND (dry)                                        | 22.0          |
| 0         |             | 3               | MC 5 |            | 24              |             | Brown, Tan f-c SAND (dry)                                          | 23.0          |
| 0         |             |                 |      |            | 25              |             | No Recovery                                                        |               |
| 0         |             |                 |      |            |                 |             |                                                                    | 25.0          |
|           |             |                 |      |            |                 |             | Bottom of borehole at 25.0 feet.                                   |               |





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# BORING AOC6-01

PAGE 1 OF 1

PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/15/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/15/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563723.576 E521543.968  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC6-01-1.5 collected 7/15/09 at 11: 20 for App IX VOCs, SVOCs, PCBs, Metals & pH (field analysis)

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:37 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                   | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|------------------------------------------|---------------|
| 0         |             |                 |      |            | 0               |             | GRAVEL                                   | 0.2           |
| 0         |             |                 |      |            |                 |             | Brown f-c SAND (dry)                     |               |
| 0         |             |                 |      |            | 1               |             |                                          |               |
| 0         |             |                 |      |            |                 |             |                                          |               |
| 0         |             | 3.5             | MC 1 |            | 2               |             |                                          |               |
| 0         |             |                 |      |            |                 |             | Brown f-c SAND, some silt (dry to moist) | 2.6           |
| 0         |             |                 |      |            | 3               |             |                                          | 3.2           |
|           |             |                 |      |            |                 |             | No Recovery                              |               |
|           |             |                 |      |            | 4               |             |                                          |               |
| 0         |             |                 |      |            | 5               |             | Brown f-c SAND (dry)                     | 5.0           |
| 0         |             |                 |      |            |                 |             | White GRAVEL (dry)                       | 5.5           |
| 0         |             |                 |      |            |                 |             | Brown silty f-c SAND (moist)             | 5.7           |
| 0         |             |                 |      |            | 6               |             |                                          |               |
|           |             |                 |      |            |                 |             | No Recovery                              |               |
|           |             |                 |      |            | 7               |             |                                          | 6.8           |
|           |             | 1.8             | MC 2 |            | 8               |             |                                          |               |
|           |             |                 |      |            | 9               |             |                                          |               |
|           |             |                 |      |            | 10              |             |                                          | 10.0          |
|           |             |                 |      |            |                 |             | Bottom of borehole at 10.0 feet.         |               |



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# BORING AOC6-02

PAGE 1 OF 1

PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/15/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/15/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563663.211 E521566.172  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC6-02-1.5 collected 7/15/09 at 10:50 for App IX VOCs, SVOCs, PCBs, Metals & pH (field analysis)

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                               | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|------------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | GRAVEL                                               |               |
| 0         |             |                 |      |            |                 |             | Brown f-c SAND, trace gravel (dry) (FILL)            | 0.4           |
| 0         |             |                 |      |            | 1               |             | Brown SILT (dry)                                     | 0.8           |
| 0         |             |                 |      |            |                 |             | Brown f-c SAND, some silt, trace gravel (dry)        | 1.1           |
| 0         |             |                 |      |            | 2               |             |                                                      |               |
| 0         |             | 3               | MC 1 |            |                 |             | Gray, Black, Blue staining SILT, some f-c sand (dry) | 2.7           |
| 0         |             |                 |      |            | 3               |             | No Recovery                                          | 3.0           |
|           |             |                 |      |            | 4               |             |                                                      |               |
|           |             |                 |      |            | 5               |             | Bottom of borehole at 5.0 feet.                      | 5.0           |



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# BORING AOC6-03

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**PROJECT NAME** Former BASF Huntington Works Facility      **DATE STARTED** 7/15/09  
**PROJECT NUMBER** 099184      **DATE COMPLETED** 7/15/09  
**LOCATION** 5th Avenue & 24th Street Huntington West Virginia      **GPS COORDINATES** N1563660.467 E521481.351  
**DRILLING METHOD** Direct Push      **DEPTH TO WATER (ft BGS)** Not Encountered  
**BOREHOLE DIAMETER** 2-inch      **DRILLING CONTRACTOR** Subsurface, Inc.  
**SAMPLING METHOD** Macrocore / Split Spoon  
**LOGGED BY** Brad Mescavage  
**REMARKS** Sample AOC6-03-1.0 collected 7/15/09 at 13:25 for App IX VOCs, SVOCs, PCBs, Metals & pH (field analysis). Duplicate sample AOC6-22-1.0 collected

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION          | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|---------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | GRAVEL                          | 0.3           |
| 0         |             |                 |      |            |                 |             | Black, Brown f-m SAND (dry)     | 0.9           |
| 0         |             |                 |      |            | 1               |             | Brown silty CLAY (dry)          |               |
| 0         |             |                 |      |            | 2               |             | Brown f-m SAND, some silt (dry) | 2.4           |
| 0         |             | 3.5             | MC 1 |            | 3               |             | No Recovery                     | 3.4           |
| 0         |             |                 |      |            | 4               |             |                                 |               |
| 0         |             |                 |      |            | 5               |             | Bottom of borehole at 5.0 feet. | 5.0           |



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# BORING AOC6-04

PAGE 1 OF 1

PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/15/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/15/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563642.086 E521556.27  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC6-04-1.5 collected 7/15/09 at 10:20 for App IX VOCs, SVOCs, PCBs, Metals & pH (field analysis)

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                                | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|-------------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | SAND, GRAVEL, CONCRETE (dry) (FILL)                   |               |
| 0         |             |                 |      |            | 1               |             | Gray, Black, Green-Brown CLAY, some f-c sand (dry)    | 0.9           |
| 0         |             |                 |      |            | 2               |             | Green-Brown, Black silty CLAY (moist)                 | 2.2           |
| 0         |             | 4               | MC 1 |            | 3               |             | Brown CLAY (dry)                                      | 2.8           |
| 0         |             |                 |      |            | 3.2             |             | Green-Brown, Black silty CLAY, trace f-c sand (moist) | 3.2           |
| 0         |             |                 |      |            | 3.4             |             | Black f-c SAND, some gravel (moist)                   | 3.4           |
| 0         |             |                 |      |            | 4               |             | No Recovery                                           | 3.9           |
|           |             |                 |      |            | 5               |             | Bottom of borehole at 5.0 feet.                       | 5.0           |



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# BORING AOC6-05

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/15/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/15/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563606.63 E521469.346  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC6-05-2.0 collected 7/15/09 at 13:45 for App IX VOCs, SVOCs, PCBs, Metals, Ethylene Glycol & pH (field analysis)

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION          | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|---------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | GRAVEL, SAND (dry) (FILL)       |               |
| 0         |             |                 |      |            | 1               |             |                                 | 1.5           |
| 0         |             |                 |      |            |                 |             | Brown clayey SILT (dry)         | 1.9           |
| 0         |             | 4               | MC 1 | X          | 2               |             | Brown f-c SAND (dry)            |               |
| 0         |             |                 |      |            | 3               |             |                                 | 3.3           |
| 0         |             |                 |      |            |                 |             | Brown silty f-c SAND (dry)      | 3.7           |
| 0         |             |                 |      |            | 4               |             | No Recovery                     |               |
|           |             |                 |      |            | 5               |             | Bottom of borehole at 5.0 feet. | 5.0           |



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# BORING AOC6-06

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/15/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/15/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563595.842 E521525.634  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC6-06-5.0 collected 7/15/09 at 9:50 for App IX VOCs, SVOCs, PCBs, Metals, Ethylene Glycol & pH (field analysis)

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:38 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                                | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|-------------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | White GRAVEL, f-c sand (dry) (FILL)                   |               |
| 0         |             |                 |      |            | 1               |             |                                                       | 1.3           |
| 0         |             |                 |      |            |                 |             | White, Green stained SILT, some f-c sand (dry)        | 1.5           |
| 0         |             |                 |      |            | 2               |             | Brown, Black stained silty CLAY, trace f-c sand (dry) | 2.2           |
| 0         |             | 2.5             | MC 1 |            |                 |             | No Recovery                                           |               |
|           |             |                 |      |            | 3               |             |                                                       |               |
|           |             |                 |      |            | 4               |             |                                                       |               |
| 0         |             |                 |      |            | 5               |             | Black CLAY (moist)                                    | 5.0           |
| 134       |             |                 |      |            | 6               |             |                                                       |               |
| 75.5      |             |                 |      |            |                 |             | Dark Green CLAY (moist)                               | 6.3           |
| 23.6      |             |                 |      |            |                 |             |                                                       |               |
| 2.9       |             |                 |      |            | 7               |             | Black CLAY (moist)                                    | 6.8           |
| 0         |             | 2.8             | MC 2 |            |                 |             | Brown, Gray CLAY (moist)                              | 7.0           |
| 0         |             |                 |      |            | 8               |             | No Recovery                                           | 7.8           |
|           |             |                 |      |            | 9               |             |                                                       |               |
|           |             |                 |      |            | 10              |             | Bottom of borehole at 10.0 feet.                      | 10.0          |



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# BORING AOC6-07

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**PROJECT NAME** Former BASF Huntington Works Facility      **DATE STARTED** 7/15/09  
**PROJECT NUMBER** 099184      **DATE COMPLETED** 7/15/09  
**LOCATION** 5th Avenue & 24th Street Huntington West Virginia      **GPS COORDINATES** N1563550.767 E521460.328  
**DRILLING METHOD** Direct Push      **DEPTH TO WATER (ft BGS)** Not Encountered  
**BOREHOLE DIAMETER** 2-inch      **DRILLING CONTRACTOR** Subsurface, Inc.  
**SAMPLING METHOD** Macrocore / Split Spoon  
**LOGGED BY** Brad Mescavage  
**REMARKS** Sample AOC6-07-2.0 collected 7/15/09 at 9:30 for App IX VOCs, SVOCs, PCBs & Metals

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                               | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|------------------------------------------------------|---------------|
| 19.2      |             |                 |      |            |                 |             | GRAVEL                                               | 0.4           |
| 489       |             |                 |      |            |                 |             | Black SILT, trace gravel (dry)                       |               |
| 372       |             |                 |      |            | 1               |             |                                                      |               |
| 1152      |             |                 |      |            |                 |             | Black, Red stained clayey SILT, trace f-c sand (wet) | 1.5           |
| 1495      |             |                 |      |            | 2               |             |                                                      |               |
| 0         |             | 3               | MC 1 |            |                 |             | No Recovery                                          | 2.7           |
|           |             |                 |      |            | 3               |             |                                                      |               |
|           |             |                 |      |            | 4               |             |                                                      |               |
|           |             |                 |      |            | 5               |             | Bottom of borehole at 5.0 feet.                      | 5.0           |



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# BORING AOC6-08

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/15/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/15/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563525.82 E521504.334  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC6-08-6.5 collected 7/15/09 at 9:15 for App IX VOCs, SVOCs, PCBs & Metals

ELM BORING LOG - LOG A EWN01.GDT - 5/14/10 09:38 - G:\99184-BASF\_WVBORING LOGS\INTREFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                       | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|----------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT, GRAVEL (dry)                        |               |
| 16.5      |             |                 |      |            |                 |             |                                              | 0.7           |
| 79.6      |             |                 |      |            | 1               |             | Brown f-c SAND, some gravel (dry)            | 1.0           |
| 55.8      |             |                 |      |            |                 |             | Black, Dark Gray GRAVEL, some f-c sand (wet) |               |
| 74.2      |             |                 |      |            | 2               |             |                                              | 2.1           |
|           |             | 2.5             | MC 1 |            |                 |             | Black SILT (dry)                             | 2.4           |
|           |             |                 |      |            |                 |             | No Recovery                                  |               |
|           |             |                 |      |            | 3               |             |                                              |               |
|           |             |                 |      |            | 4               |             |                                              |               |
| 14.4      |             |                 |      |            | 5               |             | Black SILT (wet)                             | 5.0           |
| 52.1      |             |                 |      |            |                 |             | Black SILT, trace gravel (wet) (soft)        | 5.5           |
| 59.6      |             |                 |      |            | 6               |             |                                              |               |
| 92.9      |             |                 |      |            |                 |             | Black SILT, some f-c sand, some clay (wet)   | 6.5           |
| 92.3      |             |                 |      |            | 7               |             |                                              |               |
| 60.2      |             | 4               | MC 2 |            |                 |             | Dark Gray silty CLAY (wet)                   | 7.7           |
| 44.8      |             |                 |      |            | 8               |             |                                              |               |
| 41.7      |             |                 |      |            |                 |             | Gray, Brown mottled CLAY (moist) (soft)      | 8.7           |
| 0         |             |                 |      |            | 9               |             | No Recovery                                  | 9.0           |
|           |             |                 |      |            | 10              |             | Bottom of borehole at 10.0 feet.             | 10.0          |





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# BORING AOC6-09

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/14/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/14/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563323.366 E521400.125  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC6-09-6.5 collected 7/14/09 at 11:50 for App IX VOCs, SVOCs, PCBs, Metals & pH (field analysis)

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:38 - G:\99184-BASF\_WVBORING LOGS\INTREF1\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                         | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                        | 0.3           |
| 0         |             |                 |      |            |                 |             | Brown f-c SAND (dry)                           |               |
| 0         |             |                 |      |            | 1               |             |                                                | 1.3           |
| 0         |             |                 |      |            |                 |             | Gray silty CLAY (wet)                          | 1.6           |
| 0         |             |                 |      |            | 2               |             | Brown, Black silty f-c SAND (moist)            |               |
| 0         |             | 2.5             | MC 1 |            |                 |             | No Recovery                                    | 2.4           |
|           |             |                 |      |            | 3               |             |                                                |               |
|           |             |                 |      |            | 4               |             |                                                |               |
| 0         |             |                 |      |            | 5               |             | Brown silty f-c SAND, trace gravel (saturated) | 5.0           |
| 0         |             |                 |      |            |                 |             | Black f-c SAND, some gravel (wet)              | 5.4           |
| 0         |             |                 |      |            | 6               |             | Black stained, Gray CLAY (moist)               | 5.8           |
| 0         |             |                 |      |            | 7               |             |                                                | 7.2           |
| 0         |             |                 |      |            |                 |             | Gray CLAY (moist)                              |               |
| 0         |             | 3.5             | MC 2 |            | 8               |             |                                                | 8.5           |
| 0         |             |                 |      |            |                 |             | No Recovery                                    |               |
|           |             |                 |      |            | 9               |             |                                                |               |
|           |             |                 |      |            | 10              |             | Bottom of borehole at 10.0 feet.               | 10.0          |



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# BORING AOC6-10

PAGE 1 OF 1

PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/14/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/14/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563294.265 E521416.068  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC6-10-2.5 collected 7/14/09 at 11:50 for App IX VOCs, SVOCs, PCBs, Metals & pH (field analysis)

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                         | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                        |               |
| 0         |             |                 |      |            |                 |             | GRAVEL                                         | 0.5           |
| 0         |             |                 |      |            | 1               |             |                                                | 1.3           |
| 0         |             |                 |      |            |                 |             | Black SILT, Blue stained SILT (dry)            |               |
| 2.3       |             |                 |      |            | 2               |             | Black f-c SAND, some silt (wet)                | 2.1           |
| 7.9       |             | 3.5             | MC 1 |            |                 |             | Brown, Gray CLAY, some f-c sand (moist) (soft) | 2.5           |
| 0         |             |                 |      |            | 3               |             |                                                | 3.4           |
|           |             |                 |      |            |                 |             | No Recovery                                    |               |
|           |             |                 |      |            | 4               |             |                                                |               |
|           |             |                 |      |            | 5               |             | Bottom of borehole at 5.0 feet.                | 5.0           |



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# BORING AOC6-11

PAGE 1 OF 1

PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/14/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/14/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563243.824 E521407.172  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC6-11-2.0 collected 7/14/09 at 9:55 for App IX VOCs, SVOCs, PCBs, Metals & pH (field analysis)

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                        | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|-----------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                       | 0.5           |
| 0         |             |                 |      |            |                 |             | Black SAND, GRAVEL (dry) (FILL)               | 1.0           |
| 0         |             |                 |      |            | 1               |             | Brown f-c SAND, some silt, trace gravel (dry) | 1.5           |
| 0         |             |                 |      |            |                 |             | Gray, Black stained silty CLAY (moist)        |               |
| 0         |             |                 |      |            | 2               |             |                                               |               |
| 0         |             | 3.3             | MC 1 |            |                 |             |                                               |               |
| 0         |             |                 |      |            | 3               |             | Black f-c SAND, some silt (moist)             | 2.9           |
| 0         |             |                 |      |            |                 |             | No Recovery                                   | 3.3           |
|           |             |                 |      |            | 4               |             |                                               |               |
|           |             |                 |      |            | 5               |             | Bottom of borehole at 5.0 feet.               | 5.0           |



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# BORING AOC6-12

PAGE 1 OF 1

PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/14/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/14/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563289.5 E521430.854  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC6-12-8.0 collected 7/14/09 at 10:35 for App IX VOCs, SVOCs, PCBs, Metals & pH (field analysis)

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:38 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                     | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|--------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                    |               |
| 0         |             |                 |      |            | 1               |             |                                            | 1.0           |
| 0         |             |                 |      |            | 2               |             | GRAVEL, SAND (dry) (FILL)                  |               |
| 0         |             | 3.5             | MC 1 |            | 3               |             |                                            | 3.5           |
| 0         |             |                 |      |            | 4               |             | No Recovery                                |               |
| 0         |             |                 |      |            | 5               |             | Black SILT, some f-c sand, some clay (wet) | 5.0           |
| 0         |             |                 |      |            | 6               |             |                                            |               |
| 0         |             |                 |      |            | 7               |             | Black SILT, trace f-m sand (wet)           | 6.8           |
| 0         |             | 4.7             | MC 2 |            | 8               |             | Black SILT, trace f-m sand (wet)           | 7.7           |
| 30.9      |             |                 |      |            | 9               |             | Gray CLAY (moist) (soft)                   | 8.4           |
| 9         |             |                 |      |            | 9               |             |                                            |               |
| 0         |             |                 |      |            | 10              |             | No Recovery                                | 9.7           |
| 0         |             |                 |      |            |                 |             | Bottom of borehole at 10.0 feet.           | 10.0          |



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# BORING AOC6-13

PAGE 1 OF 1

PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/14/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/14/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1563247.002 E521451.83  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC6-13-3.0 collected 7/14/09 at 9:20 for App IX VOCs, SVOCs, PCBs, Metals & pH (field analysis)

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                            | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|---------------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                                           | 0.5           |
| 0         |             |                 |      |            |                 |             | GRAVEL, CONCRETE (dry) (FILL)                     | 1.5           |
| 0         |             |                 |      |            | 1               |             | Black stained SAND, some silt, trace clay (moist) | 1.8           |
| 0         |             |                 |      |            | 2               |             | SAND, GRAVEL, red brick fragments (dry) (FILL)    | 2.8           |
| 0         |             | 4               | MC 1 |            | 3               |             | Brown CLAY (dry)                                  | 3.3           |
| 0         |             |                 |      |            | 4               |             | Black stained SILT, some f-c sand (wet)           | 4.0           |
| 0         |             |                 |      |            | 5               |             | No Recovery                                       | 5.0           |
|           |             |                 |      |            |                 |             | Bottom of borehole at 5.0 feet.                   |               |



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# BORING AOC6-14

PAGE 1 OF 1

PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/13/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/13/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1562856.322 E521246.668  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC6-14-2.0 collected 7/13/09 at 14:04 for App IX VOCs, SVOCs, PCBs, Metals & TPH

ELM BORING LOG - LOG A EWNN01 GDT - 5/14/10 09:39 - G:\99184-BASF\_WVBORING LOGS\INTREFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                  | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|-----------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | TOP SOIL, Grass, Root layer             | 0.3           |
| 0         |             |                 |      |            |                 |             | Brown f-c SAND, some silt (dry)         | 0.6           |
| 0         |             |                 |      |            | 1               |             | Black f-c SAND, some gravel (dry)       | 1.0           |
| 0         |             |                 |      |            |                 |             | Brown f-c SAND (dry)                    | 1.5           |
| 0         |             |                 |      |            |                 |             | Brown clayey SILT, trace f-m sand (dry) | 2.0           |
| 0         |             |                 |      |            | 2               |             | Brown silty CLAY (dry)                  | 2.8           |
| 0         |             | 2.8             | MC 1 |            | 3               |             | No Recovery                             |               |
|           |             |                 |      |            | 4               |             |                                         |               |
| 0         |             |                 |      |            | 5               |             | Brown silty CLAY (dry)                  | 5.0           |
| 0         |             |                 |      |            | 6               |             |                                         |               |
| 0         |             |                 |      |            |                 |             | Brown CLAY, some f-c sand (moist)       | 6.5           |
| 0         |             |                 |      |            | 7               |             |                                         |               |
| 0         |             | 4.1             | MC 2 |            | 8               |             |                                         | 8.5           |
| 0         |             |                 |      |            |                 |             | Brown f-c SAND (dry)                    | 8.8           |
|           |             |                 |      |            | 9               |             | Gray CLAY (dry)                         | 9.1           |
|           |             |                 |      |            |                 |             | No Recovery                             |               |
|           |             |                 |      |            | 10              |             | Bottom of borehole at 10.0 feet.        | 10.0          |



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# BORING AOC6-15

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/13/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/13/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1562779.569 E521261.844  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC6-15-6.0 collected 7/13/09 at 14:40 for App IX VOCs, SVOCs, PCBs, Metals & TPH

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:39 - G:\99184-BASF\_WVBORING LOGS\INT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                   | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|------------------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | GRAVEL, SAND (dry) (FILL)                |               |
| 0         |             |                 |      |            | 1               |             |                                          |               |
| 0         |             |                 |      |            |                 |             |                                          | 1.8           |
| 0         |             |                 |      |            | 2               |             | Brown f-m SAND, some clay and silt (dry) | 2.0           |
|           |             | 2               | MC 1 |            |                 |             | No Recovery                              |               |
|           |             |                 |      |            | 3               |             |                                          |               |
|           |             |                 |      |            | 4               |             |                                          |               |
|           |             |                 |      |            | 5               |             | GRAVEL, SAND (dry) (FILL)                | 5.0           |
| 0         |             |                 |      |            |                 |             |                                          | 5.5           |
| 0         |             |                 |      |            | 6               |             | Gray, Br CLAY (moist)                    | 6.0           |
| 0         |             |                 |      |            |                 |             | Gray f-m SAND, some clay, (moist)        |               |
| 0         |             |                 |      |            | 7               |             | Brown f-m SAND, some clay (moist)        | 7.0           |
| 0         |             | 4.5             | MC 2 |            |                 |             |                                          |               |
| 0         |             |                 |      |            | 8               |             | Gray silty CLAY (moist)                  | 8.0           |
| 0         |             |                 |      |            | 9               |             | No Recovery                              | 9.0           |
| 0         |             |                 |      |            | 10              |             | Bottom of borehole at 10.0 feet.         | 10.0          |



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# BORING AOC6-16

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PROJECT NAME Former BASF Huntington Works Facility DATE STARTED 7/13/09  
 PROJECT NUMBER 099184 DATE COMPLETED 7/13/09  
 LOCATION 5th Avenue & 24th Street Huntington West Virginia GPS COORDINATES N1562749.137 E521213.408  
 DRILLING METHOD Direct Push DEPTH TO WATER (ft BGS) Not Encountered  
 BOREHOLE DIAMETER 2-inch DRILLING CONTRACTOR Subsurface, Inc.  
 SAMPLING METHOD Macrocore / Split Spoon  
 LOGGED BY Brad Mescavage  
 REMARKS Sample AOC6-16-2.0 collected 7/13/09 at 15:45 for App IX VOCs, SVOCs, PCBs, Metals & TPH

ELM BORING LOG - LOG A EWNN01.GDT - 5/14/10 09:39 - G:\99184-BASF\_WVBORING LOGS\GINT\RFI\_PHASEII\_BORINGLOGS-JULY2009.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION            | CONTACT DEPTH |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|-----------------------------------|---------------|
| 0         |             |                 |      |            |                 |             | ASPHALT                           | 0.5           |
| 0         |             |                 |      |            |                 |             | GRAVEL                            | 0.7           |
| 0         |             |                 |      |            | 1               |             | Gy SILT, s gravel (dry)           | 1.2           |
| 0         |             |                 |      |            |                 |             | Br, BI GRAVEL & SAND (dry) (FILL) | 1.5           |
| 0         |             |                 |      |            |                 |             | Br silty CLAY (dry)               |               |
| 0         |             | 4.4             | MC 1 |            | 2               |             |                                   |               |
| 0         |             |                 |      |            | 3               |             |                                   |               |
| 0         |             |                 |      |            | 4               |             |                                   |               |
| 0         |             |                 |      |            |                 |             | No Recovery                       | 4.4           |
| 0         |             |                 |      |            | 5               |             | Br silty CLAY (dry)               | 5.0           |
| 0         |             |                 |      |            | 6               |             |                                   |               |
| 0         |             |                 |      |            | 7               |             | Br silty CLAY (moist)             | 7.0           |
| 0         |             | 4               | MC 2 |            | 8               |             |                                   |               |
| 0         |             |                 |      |            | 9               |             | No Recovery                       | 9.0           |
| 0         |             |                 |      |            | 10              |             | Bottom of borehole at 10.0 feet.  | 10.0          |



**ATTACHMENT B**

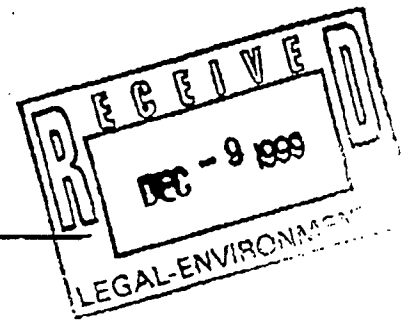
**BASF Corporation December 7, 1999 Commitment Letter**

**BASF Corporation**

**BASF**

CERTIFIED MAIL #Z319 532 129  
RETURN RECEIPT REQUESTED

December 7, 1999



Robert E. Greaves, Chief  
General Operations Branch  
U.S. E.P.A., Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029

Re: BASF Corporation, Huntington, WV  
Letter of Commitment - Facility Lead Corrective Action Agreement

Dear Mr. Greaves:

This will serve to document BASF Corporation's commitment on behalf of its Huntington, WV facility to participate in Region III's Facility Lead Corrective Action Program in accordance with the Agreement originally sent to John Byrnes on September 23, 1999.<sup>1</sup>

During an earlier discussion between BASF's in house counsel, Nancy Lake Martin, and Denis Zielinski, BASF was granted additional time in which to submit its Initial Work Plan which will include a Quality Assurance Project Plan and Community Relations Plan. BASF proposes to submit this Workplan no later than June 29, 2000. BASF has retained a consultant and Workplan development efforts have already begun. BASF should be in a position to discuss current conditions, based on a review of site records and discussions with employees, sometime in late March or early April 2000, prior to submission of the Workplan. The first meaningful opportunity to discuss Environmental Indicator goals would be upon completion of the initial Site Characterization activities. BASF currently projects that field activities would commence in approximately March, 2001. The results of the initial Site Characterization activities will also focus any additional data collection efforts which may be necessary and will allow BASF to evaluate the possible need for interim measures.

BASF designates Myron Schmidt, the site's Environmental Manager, to serve as the Facility Project Coordinator. Mr. Schmidt can be reached at (304) 528-2316.

If you have any questions regarding any of the points raised in BASF's commitment letter, please give Myron or me a call.

Very truly yours,

Johnson Pursoo  
General Manager

cc: Nancy Lake Martin  
Joe McKeon

<sup>1</sup>For unknown reasons, the September 23 letter was returned to EPA. Denis Zielinski resent the letter and agreement which were received on October 13, 1999.

**ATTACHMENT C**  
**Monitoring Well Logs**



## WELL LOG

|                                  |                               |                                           |
|----------------------------------|-------------------------------|-------------------------------------------|
| Well No.: <b>TMW-1D</b>          | Date: 6/25/02                 | Permit Number: WV00226-0022-02            |
| Project Name: BASF               | ELM Inspector: K. Pollack     | Boring Method: Hollow Stem Auger          |
| Project Location: Huntington, WV | Total Well Depth (ft): 53.5   | Sampler Type: Straight Augering           |
| Project No.: 99184               | Depth to Groundwater (ft): 40 | Drilling Contractor: Triad<br>M. Lupardis |

| Blow<br>Counts<br>or Rate                                                                                                                                                                                                                                                                            | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                             | Depth<br>ft (0.1)                                                                                                                                                                                                                          | Sample | PID<br>(ppm) | Completion |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                                                                                                                                                                                                                                      |               |                        | ASPHALT/ROADSTONE<br>No lithology described                               |                                                                                                                                                                                                                                            |        |              |            |
|                                                                                                                                                                                                                                                                                                      |               |                        | No lithology described                                                    | 5                                                                                                                                                                                                                                          |        | 0            |            |
|                                                                                                                                                                                                                                                                                                      |               |                        | No lithology described                                                    | 10                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                      |               |                        | Br Silty CLAY; damp, no odor, pliable,<br>sticky                          | 15                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                      |               |                        | Br Silty CLAY; damp, no odor, pliable,<br>sticky                          | 20                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                      |               |                        | Gy-Br Silty CLAY, trace f Sand; damp, no<br>odor, pliable, sticky         | 25                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                      |               |                        | Gy-Br Silty CLAY, trace f Sand; no odor                                   |                                                                                                                                                                                                                                            |        |              |            |
|                                                                                                                                                                                                                                                                                                      |               |                        | Br Silty CLAY, trace f Sand; occasional<br>cobbles, no odor               | 30                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                      |               |                        | Br f-m SAND, some Silt; no odor, wet,<br>occasional cobbles               | 35                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                      |               |                        | Br f-m SAND, some Silt; few cobbles, no<br>odor, wet to saturated         | 40                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                      |               |                        | Br m-f SAND, some Silt; few cobbles, no<br>odor, saturated, whipped-loamy | 45                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                      |               |                        | Br m-f SAND, trace Silt; no odor, saturated,<br>few cobbles               | 50                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                      |               |                        | Br m-f SAND, trace Silt; no odor, saturated                               | 55                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                      |               |                        | Br f-m SAND, trace Silt; no odor, saturated                               |                                                                                                                                                                                                                                            |        | 0            |            |
| <b>Notes:</b><br>No samples collected.<br>Top of casing elevation is 548.23 ft MSL.<br>"Running Sands" a bit more silty with trace/some cobbles. Not just fine sand as with<br>other locations.<br>10' Screen - 53.5' total depth<br>Well kept rising up due to running sand.<br>Flush mount surface |               |                        |                                                                           | <b>Abbreviation Legend:</b><br>f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                  Lt - Light<br>Br - Brown                Dk - Dark |        |              |            |



## WELL LOG

|                                  |                               |                                           |
|----------------------------------|-------------------------------|-------------------------------------------|
| Well No.: <b>TMW-2D</b>          | Date: 6/21/02                 | Permit Number: WV00226-0017-02            |
| Project Name: BASF               | ELM Inspector: K. Pollack     | Boring Method: Hollow Stem Auger          |
| Project Location: Huntington, WV | Total Well Depth (ft): 38.5   | Sampler Type: Straight Augering           |
| Project No.: 99184               | Depth to Groundwater (ft): 18 | Drilling Contractor: Triad<br>M. Lupardis |

| Blow<br>Counts<br>or Rate                                                                                                                                                                                                                                                                                                                                                                        | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                                                                                           | Depth<br>ft (0.1)                                                                                                                                                                                                                          | Sample | PID<br>(ppm) | Completion |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                                                                                                                                                                                                                                                                                                                                  |               |                        | Topsoil/Gravel; few cobbles                                                                                                             |                                                                                                                                                                                                                                            |        |              |            |
|                                                                                                                                                                                                                                                                                                                                                                                                  |               |                        | Dk Br c-m GRAVEL, some c-m-f SAND,<br>some Silt; few cobbles                                                                            | 5                                                                                                                                                                                                                                          |        | 0            |            |
|                                                                                                                                                                                                                                                                                                                                                                                                  |               |                        | Dk Br c-m GRAVEL, some c-m-f SAND,<br>some Silt grading to CLAY, some m-f<br>Sand, trace c-m Gravel, some Silt; few<br>cobbles, no odor | 10                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                                                                                                                  |               |                        | Dk Br CLAY, some m-f Sand, trace c-f<br>Gravel, some Silt; moist, no odor                                                               | 15                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                                                                                                                  |               |                        | Gy-Br Silty CLAY, trace c-m GRAVEL;<br>occasional cobbles, saturated at 18.0', no<br>odor                                               | 20                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                                                                                                                  |               |                        | Gy-Br Silty CLAY, trace c-m GRAVEL;<br>occasional cobbles, saturated, no odor                                                           | 25                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                                                                                                                  |               |                        | Gy-Br Silty CLAY, trace c-m GRAVEL;<br>occasional cobbles, saturated, no odor,<br>runny, loamy                                          | 30                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                                                                                                                  |               |                        | Gy-Br Silty CLAY, trace c-m Gravel;<br>occasional cobbles, saturated, no odor,<br>loamy, dense                                          | 35                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                                                                                                                  |               |                        | Gy-Br Silty CLAY, trace c-m Gravel;<br>occasional cobbles, saturated, no odor,<br>loamy, dense, sticky                                  | 40                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                                                                                                                  |               |                        | Gy-Br Silty CLAY, trace c-m Gravel;<br>occasional cobbles, saturated, no odor,<br>loamy, dense, sticky                                  | 45                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                                                                                                                  |               |                        | Gy-Br running SAND, some Silty Clay,<br>trace c-m Gravel; no odor, saturated,<br>running sands                                          | 50                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                                                                                                                  |               |                        | Gy-Br running SAND, some Silty Clay,<br>trace c-m Gravel; no odor, saturated,<br>running sands                                          | 55                                                                                                                                                                                                                                         |        | 0            |            |
| <b>Notes:</b><br>No samples collected.<br>18' to 60' - hardly any cuttings due to saturation. Could not get well to sit in running<br>sand - kept popping up. Augers had approx. 20' running sand in bottom - kept filling<br>up. Pulled everything out. Started over again.<br>Set well to 38' with 10' screen. Total depth = 38.5'. Stick-up Well<br>Top of casing elevation is 551.07 ft MSL. |               |                        |                                                                                                                                         | <b>Abbreviation Legend:</b><br>f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                  Lt - Light<br>Br - Brown                Dk - Dark |        |              |            |



## WELL LOG

|                                  |                               |                                            |
|----------------------------------|-------------------------------|--------------------------------------------|
| Well No.: <b>TMW-3D</b>          | Date: 6/19/02                 | Permit Number: WV00226-0015-02             |
| Project Name: BASF               | ELM Inspector: K. Pollack     | Boring Method: Hollow Stem Auger           |
| Project Location: Huntington, WV | Total Well Depth (ft): 58     | Sampler Type: Straight Augering            |
| Project No.: 99184               | Depth to Groundwater (ft): 45 | Drilling Contractor: Triadq<br>M. Lupardis |

| Blow<br>Counts<br>or Rate                                                                                                                                                              | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                                                                             | Depth<br>ft (0.1)                                                                                                                                                                                                                        | Sample | PID<br>(ppm) | Completion |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|---------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                                                                                                                        |               |                        | GRAVEL                                                                                                                    |                                                                                                                                                                                                                                          |        |              |            |
|                                                                                                                                                                                        |               |                        | Br Silty CLAY, trace f Sand; no odor, gobular                                                                             | 5                                                                                                                                                                                                                                        |        | 0            |            |
|                                                                                                                                                                                        |               |                        | Br Silty CLAY, trace f Sand; no odor, gobular as it comes up auger                                                        | 10                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                                        |               |                        | Br Silty CLAY, trace f Sand; no odor, gobular as it comes up auger                                                        | 15                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                                        |               |                        | Br Silty CLAY, trace f Sand; no odor, gobular as it comes up auger, slightly damp                                         | 20                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                                        |               |                        | Br Silty CLAY, trace f Sand; no odor, gobular as it comes up auger, slightly moist, sticky                                | 25                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                                        |               |                        | Br m-f SAND, some Silt, trace c-m Gravel; occasional cobbles, no odor, moist                                              | 30                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                                        |               |                        | Br m-f SAND, some Silt, trace c-m Gravel; few cobbles 34' to 35', no odor, moist                                          | 35                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                                        |               |                        | Br COBBLES & c-m GRAVEL, some f Sand, some Silty Clay; rounded gravel, no odor                                            | 40                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                                        |               |                        | Br Silty CLAY, some f Sand; no odors, moist to wet at 40'                                                                 | 45                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                                        |               |                        | Br Silty CLAY, some f Sand; no odors, wet to saturated at 45'                                                             | 50                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                                        |               |                        | Br Silty CLAY, some f Sand; no odors, saturated                                                                           | 55                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                                        |               |                        | Br f SAND, some Silt; no odors, saturated, running sands                                                                  |                                                                                                                                                                                                                                          |        |              |            |
|                                                                                                                                                                                        |               |                        | Br f SAND, some Silt; no odors, saturated, Boulder/rock encountered apporx. 59.5'. Could no get beyond 60', running sands |                                                                                                                                                                                                                                          |        |              |            |
| <b>Notes:</b><br>No samples collected.<br>Total depth of well 58' bgs.<br>Screened 10'<br>First real water at apporx. 45'.<br>Stick-up Well. Top of casing elevation is 551.96 ft MSL. |               |                        |                                                                                                                           | <b>Abbreviation Legend:</b><br>f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                 Gr - Green<br>Bl - Black                 Lt - Light<br>Br - Brown                Dk - Dark |        |              |            |



## WELL LOG

|                                  |                               |                                           |
|----------------------------------|-------------------------------|-------------------------------------------|
| Well No.: <b>TMW-4D</b>          | Date: 6/18/02                 | Permit Number: WV00226-0014-02            |
| Project Name: BASF               | ELM Inspector: K. Pollack     | Boring Method: Hollow Stem Auger          |
| Project Location: Huntington, WV | Total Well Depth (ft): 56     | Sampler Type: Straight Augering           |
| Project No.: 99184               | Depth to Groundwater (ft): 30 | Drilling Contractor: Triad<br>M. Lupardis |

| Blow<br>Counts<br>or Rate | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                                                                  | Depth<br>ft (0.1) | Sample | PID<br>(ppm) | Completion |
|---------------------------|---------------|------------------------|----------------------------------------------------------------------------------------------------------------|-------------------|--------|--------------|------------|
|                           |               |                        | ASPHALT/ROADSTONE                                                                                              |                   |        |              |            |
|                           |               |                        | Gy-Purple COBBLES, some c-m Sand,<br>some Silty Clay                                                           |                   |        |              |            |
|                           |               |                        | Purple Silty CLAY, trace c-m Sand;<br>globules, no odor                                                        | 5                 |        | 0            |            |
|                           |               |                        | Purple-Dk Br Silty CLAY, trace m Sand;<br>globules, no odor                                                    |                   |        |              |            |
|                           |               |                        | Dk Br-Purple Silt CLAY, trace m Sand;<br>globules, no odor                                                     | 10                |        | 0            |            |
|                           |               |                        | Dk Br-Purple Silt CLAY, trace m Sand;<br>globules, no odor, wet to moist                                       | 15                |        | 0            |            |
|                           |               |                        | Dk Br-Purple rounded COBBLES & c-m<br>GRAVEL, some m-f Sand, some Silty Clay;<br>no odors, moist               | 20                |        | 0            |            |
|                           |               |                        | Dk Br-Purple rounded COBBLES & c-m<br>GRAVEL, some m-f Sand, some Silty Clay;<br>very strong, odor at 27'      | 25                |        | 0            |            |
|                           |               |                        | Dk Br-Purple rounded COBBLES & c-m<br>GRAVEL, some m-f Sand, some Silty Clay;<br>strong odors                  | 30                |        | 64-136       |            |
|                           |               |                        | Dk Br-Purple rounded COBBLES & c-m<br>GRAVEL, some m-f Sand, some Silty Clay;<br>some odors                    | 35                |        | 88-153       |            |
|                           |               |                        | Dk Br-Purple rounded COBBLES & c-m<br>GRAVEL, some m-f Sand, some Silty Clay;<br>saturated, very sloppy, odors | 40                |        | 18-30        |            |
|                           |               |                        | Dk Br-Purple Silty CLAY, some c-m<br>Gravel, trace Sand; few rounded cobbles,<br>sloppy, wet/saturated odors   | 45                |        | 57.7         |            |
|                           |               |                        | Dk Br-Gy Silty CLAY, some c-m Gravel,<br>some m-f Sand; occasional cobbles, odor,<br>saturated                 | 50                |        | 37.9         |            |
|                           |               |                        | Dk Br-Gy Silty CLAY, some c-m Gravel,<br>some m-f Sand; occasional cobbles, odor,<br>saturated                 | 55                |        | 49.9         |            |
|                           |               |                        |                                                                                                                |                   |        | 38           |            |

### Notes:

No samples collected.  
Well set to 56', 5' screen, 51' casing  
Flush-mount, Top of casing elevation is 550.42 ft MSL.

### Abbreviation Legend:

|            |             |
|------------|-------------|
| f - fine   | Or - Orange |
| m - medium | Gy - Gray   |
| c - coarse | Gr - Green  |
| Bl - Black | Lt - Light  |
| Br - Brown | Dk - Dark   |



## WELL LOG

|                                  |                               |                                           |
|----------------------------------|-------------------------------|-------------------------------------------|
| Well No.: <b>TMW-4S</b>          | Date: 6/18/02                 | Permit Number: WV00226-0013-02            |
| Project Name: BASF               | ELM Inspector: K. Pollack     | Boring Method: Hollow Stem Auger          |
| Project Location: Huntington, WV | Total Well Depth (ft): 30     | Sampler Type: Straight Augering           |
| Project No.: 99184               | Depth to Groundwater (ft): 30 | Drilling Contractor: Triad<br>M. Lupardis |

| Blow<br>Counts<br>or Rate | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                         | Depth<br>ft (0.1) | Sample | PID<br>(ppm) | Completion |
|---------------------------|---------------|------------------------|-----------------------------------------------------------------------|-------------------|--------|--------------|------------|
|                           |               |                        | ASPHALT/ROADSTONE                                                     |                   |        |              |            |
|                           |               |                        | Gy-Purple COBBLES, some c-m Sand,<br>some Silty Clay                  |                   |        |              |            |
|                           |               |                        | Magenta Silty CLAY, trace c-m Sand;<br>globules, no odor              | 5                 |        | 0            |            |
|                           |               |                        | Dk Br variegated CLAY, trace m Sand;<br>globules, no odor             |                   |        | 0            |            |
|                           |               |                        | Dk Br CLAY, trace f Sand; globules, no<br>odor                        | 10                |        | 0            |            |
|                           |               |                        | Lt Br CLAY; loamy, moist to wet, sticky                               |                   |        | 0            |            |
|                           |               |                        | Dk Br CLAY, trace f Sand; dense, no odor                              | 15                |        | 0            |            |
|                           |               |                        | Dk Br CLAY, trace f Sand; dense, no odor                              |                   |        | 0            |            |
|                           |               |                        | Dk Br rounded COBBLES & c-m<br>GRAVEL, some Silty Clay; damp to moist | 20                |        | 0            |            |
|                           |               |                        | Dk Br rounded COBBLES & c-m<br>GRAVEL, some Silty Clay; damp          |                   |        | 0            |            |
|                           |               |                        | Dk Br rounded COBBLES & c-m<br>GRAVEL, some Silty Clay; damp          | 25                |        | 0            |            |
|                           |               |                        |                                                                       | 30                |        | 0            |            |
|                           |               |                        |                                                                       | 35                |        |              |            |
|                           |               |                        |                                                                       | 40                |        |              |            |
|                           |               |                        |                                                                       | 45                |        |              |            |
|                           |               |                        |                                                                       | 50                |        |              |            |
|                           |               |                        |                                                                       | 55                |        |              |            |

Notes:

No samples collected.

10' Screen - 20' casing

No measurable/observable water.

Total depth of well 30' bgs.

Flush-mount well, top of casing elevations is 550.35 ft MSL.

Abbreviation Legend:

|            |             |
|------------|-------------|
| f - fine   | Or - Orange |
| m - medium | Gy - Gray   |
| c - coarse | Gr - Green  |
| Bl - Black | Lt - Light  |
| Br - Brown | Dk - Dark   |





## WELL LOG

|                                  |                               |                                           |
|----------------------------------|-------------------------------|-------------------------------------------|
| Well No.: <b>TMW-5D</b>          | Date: 6/24/02                 | Permit Number: WV00226-0018-02            |
| Project Name: BASF               | ELM Inspector: K. Pollack     | Boring Method: Hollow Stem Auger          |
| Project Location: Huntington, WV | Total Well Depth (ft): 58     | Sampler Type: Straight Augering           |
| Project No.: 99184               | Depth to Groundwater (ft): 35 | Drilling Contractor: Triad<br>M. Lupardis |

| Blow<br>Counts<br>or Rate                                                                                                                            | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                                                      | Depth<br>ft (0.1)                                                                                                                                                                                                                          | Sample | PID<br>(ppm) | Completion |
|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                                                                                      |               |                        | Grass/Topsoil                                                                                      |                                                                                                                                                                                                                                            |        |              |            |
|                                                                                                                                                      |               |                        | Lt Br c-m GRAVEL & COBBLES, some Silt; dry, no odor                                                | 5                                                                                                                                                                                                                                          |        | 0            |            |
|                                                                                                                                                      |               |                        | Br Silty CLAY, some c-m Gravel, trace f Sand; occasional cobbles, no odor                          | 10                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                      |               |                        | Br f SAND, trace c-m Gravel, trace Silty Clay; no odor                                             | 15                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                      |               |                        | Br f SAND, trace Silt; no odor                                                                     | 20                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                      |               |                        | Br f SAND, trace c-m Gravel, trace Silt; no odor, occasional cobbles                               | 25                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                      |               |                        | Br f SAND, some c-m Gravel, trace Silt; no odor, occasional cobbles                                | 30                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                      |               |                        | Br f SAND, some c-m Gravel, trace Silt; no odor, occasional cobbles                                | 35                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                      |               |                        | Br f SAND, some c-m Gravel, trace Silt; no odor, occasional cobbles                                | 40                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                      |               |                        | Br f SAND, trace c-m Gravel, trace Silt; no odor, occasional cobbles, moist (no sign of water yet) | 45                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                      |               |                        | Br f SAND, trace c-m Gravel, trace Silt; no odor, occasional cobbles, moist                        | 50                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                      |               |                        | Br COBBLES, some f Sand, some c-m Gravel, trace Silt; no odor moist                                | 55                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                      |               |                        | Br f SAND, trace m-f Gravel; running sand, no odor, saturated                                      |                                                                                                                                                                                                                                            |        |              |            |
|                                                                                                                                                      |               |                        | Br f SAND, trace m-f Gravel; running sand, no odor, saturated                                      |                                                                                                                                                                                                                                            |        |              |            |
| <b>Notes:</b><br>No samples collected.<br>Total depth - 58' bgs, 10' screen, 48' casing.<br>Stick-up Well, top of casing elevation is 557.97 ft MSL. |               |                        |                                                                                                    | <b>Abbreviation Legend:</b><br>f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                  Lt - Light<br>Br - Brown                Dk - Dark |        |              |            |



## WELL LOG

|                                  |                               |                                           |
|----------------------------------|-------------------------------|-------------------------------------------|
| Well No.: <b>TMW-6D</b>          | Date: 6/20/02                 | Permit Number: WV00226-0016-02            |
| Project Name: BASF               | ELM Inspector: K. Pollack     | Boring Method: Hollow Stem Auger          |
| Project Location: Huntington, WV | Total Well Depth (ft): 54     | Sampler Type: Straight Augering           |
| Project No.: 99184               | Depth to Groundwater (ft): 43 | Drilling Contractor: Triad<br>M. Lupardis |

| Blow<br>Counts<br>or Rate                                                                                                                                        | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                                                | Depth<br>ft (0.1)                                                                                                                                                                                                                        | Sample | PID<br>(ppm) | Completion |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                                                                                                  |               |                        | Grass & Topsoil                                                                              |                                                                                                                                                                                                                                          |        |              |            |
|                                                                                                                                                                  |               |                        | Br Silty CLAY, trace f Sand; globular, no odor                                               | 5                                                                                                                                                                                                                                        |        |              |            |
|                                                                                                                                                                  |               |                        | Br Silty CLAY, trace f Sand; globular, no odor                                               | 10                                                                                                                                                                                                                                       |        |              |            |
|                                                                                                                                                                  |               |                        | Br Silty CLAY, trace f Sand; globular, no odor, occasional cobbles, sticky                   | 15                                                                                                                                                                                                                                       |        |              |            |
|                                                                                                                                                                  |               |                        | Br Silty CLAY & c-m GRAVEL; many rounded cobbles and gravel, globular, moist, no odor        | 20                                                                                                                                                                                                                                       |        |              |            |
|                                                                                                                                                                  |               |                        | Br COBBLES & c-m GRAVEL, some Silty Clay; moist, no odor, rounded gravel                     | 25                                                                                                                                                                                                                                       |        |              |            |
|                                                                                                                                                                  |               |                        | Br COBBLES & c-m GRAVEL, some Silty Clay; moist, no odor, rounded gravel                     | 30                                                                                                                                                                                                                                       |        |              |            |
|                                                                                                                                                                  |               |                        | Br COBBLES & c-m GRAVEL, some Silty Clay; moist, no odor, rounded gravel                     | 35                                                                                                                                                                                                                                       |        |              |            |
|                                                                                                                                                                  |               |                        | Br c-m GRAVEL, some Silty Clay; few rounded cobbles, moist                                   | 40                                                                                                                                                                                                                                       |        |              |            |
|                                                                                                                                                                  |               |                        | Br c-m GRAVEL, some Silty Clay; few rounded cobbles, no odor, wet to saturated, water at 43' | 45                                                                                                                                                                                                                                       |        |              |            |
|                                                                                                                                                                  |               |                        | Dk Br Silty CLAY, some c-m Gravel, trace f Sand; saturated, no odor                          | 50                                                                                                                                                                                                                                       |        |              |            |
|                                                                                                                                                                  |               |                        | Dk Br f SAND, some Silty Clay, trace f Gravel; saturated, running sands, no odor             | 55                                                                                                                                                                                                                                       |        |              |            |
|                                                                                                                                                                  |               |                        | Dk Br f SAND, some Silty Clay, trace f Gravel; saturated, running sands, no odor             |                                                                                                                                                                                                                                          |        |              |            |
| <b>Notes:</b><br>No samples collected.<br>Auger refusal at 57'.<br>Total Depth - 54' bgs, 10' screen<br>Stick-up Well, Top of casing elevation is 549.70 ft MSL. |               |                        |                                                                                              | <b>Abbreviation Legend:</b><br>f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                 Gr - Green<br>Bl - Black                 Lt - Light<br>Br - Brown                Dk - Dark |        |              |            |



# WELL LOG

Well No.: **TMW-7D** Date: 6/24/02 Permit Number: WV00226-0019-02  
 Project Name: BASF ELM Inspector: K. Pollack Boring Method: Hollow Stem Auger  
 Project Location: Huntington, WV Total Well Depth (ft): 51.5 Sampler Type: Straight Augering  
 Project No.: 99184 Depth to Groundwater (ft): 35 Drilling Contractor: Triad  
 M. Lupardis

| Blow<br>Counts<br>or Rate                                                                                                                                                                                                | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                                   | Depth<br>ft (0.1)                                                                                                                                     | Sample | PID<br>(ppm) | Completion |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                                                                                                                                                          |               |                        | Grass/Topsoil                                                                   |                                                                                                                                                       |        |              |            |
|                                                                                                                                                                                                                          |               |                        | Br Silty CLAY; globules, no odor                                                | 5                                                                                                                                                     |        | 0            |            |
|                                                                                                                                                                                                                          |               |                        | Br Silty CLAY; globules, no odor                                                | 10                                                                                                                                                    |        | 0            |            |
|                                                                                                                                                                                                                          |               |                        | Br Silty CLAY; globules, no odor, slightly damp                                 | 15                                                                                                                                                    |        | 0            |            |
|                                                                                                                                                                                                                          |               |                        | Br Silty CLAY; globules, no odor, moist, plastic                                | 20                                                                                                                                                    |        | 0            |            |
|                                                                                                                                                                                                                          |               |                        | Br Silty CLAY; pliable, sticky, no odor, moist                                  | 25                                                                                                                                                    |        | 0            |            |
|                                                                                                                                                                                                                          |               |                        | Br Silty CLAY; pliable, sticky, no odor, moist                                  | 30                                                                                                                                                    |        | 0            |            |
|                                                                                                                                                                                                                          |               |                        | Br Silty CLAY, trace f SAND; pliable, sticky, no odor, moist to wet             | 35                                                                                                                                                    |        | 0            |            |
|                                                                                                                                                                                                                          |               |                        | Br-Gy f SAND, trace Silt; running sands, no odor, wet, running sand approx. 36' | 40                                                                                                                                                    |        | 0            |            |
|                                                                                                                                                                                                                          |               |                        | Br-Gy f SAND, trace Silt; running sands, no odor, wet                           | 45                                                                                                                                                    |        | 0            |            |
|                                                                                                                                                                                                                          |               |                        | Br f SAND; running sands, saturated, no odor                                    | 50                                                                                                                                                    |        | 0            |            |
|                                                                                                                                                                                                                          |               |                        | Br f SAND; running sands, saturated, no odor                                    | 55                                                                                                                                                    |        | 0            |            |
| <b>Notes:</b><br>No samples collected.<br>Total depth 51.5' bgs.<br>Screen 10'<br>Well kept popping up - finally set at below grade<br>Stick-up Well, top of casing elevation is 550.69 ft MSL.<br>No samples collected. |               |                        |                                                                                 | <b>Abbreviation Legend:</b><br>f - fine Or - Orange<br>m - medium Gy - Gray<br>c - coarse Gr - Green<br>Bl - Black Lt - Light<br>Br - Brown Dk - Dark |        |              |            |



## WELL LOG

|                                  |                                 |                                           |
|----------------------------------|---------------------------------|-------------------------------------------|
| Well No.: <b>TMW-8D</b>          | Date: 6/25/02                   | Permit Number: WV00226-0020-02            |
| Project Name: BASF               | ELM Inspector: K. Pollack       | Boring Method: Hollow Stem Auger          |
| Project Location: Huntington, WV | Total Well Depth (ft): 58.5     | Sampler Type: Straight Augering           |
| Project No.: 99184               | Depth to Groundwater (ft): 7/50 | Drilling Contractor: Triad<br>M. Lupardis |

| Blow<br>Counts<br>or Rate                                                                                                                                                  | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                                          | Depth<br>ft (0.1)                                                                                                                                                                                                                        | Sample | PID<br>(ppm) | Completion |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                                                                                                            |               |                        | Grass/Topsoil                                                                          |                                                                                                                                                                                                                                          |        |              |            |
|                                                                                                                                                                            |               |                        | Dk Br Silty CLAY; hint of blue pigment, moist, sticky, no odor                         | 5                                                                                                                                                                                                                                        |        | 0            |            |
|                                                                                                                                                                            |               |                        | Dk Br Silty CLAY; moist, sticky, no odor                                               |                                                                                                                                                                                                                                          |        |              |            |
|                                                                                                                                                                            |               |                        | Dk Br Silty CLAY; saturated, water at 7.0', no odor                                    | 10                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                            |               |                        | Dk Br Silty CLAY; saturated to wet no odor                                             |                                                                                                                                                                                                                                          |        |              |            |
|                                                                                                                                                                            |               |                        | Dk Br Silty CLAY, trace f Sand; wet to moist, no odor                                  | 15                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                            |               |                        | Dk Br f SAND, some Silt; occasional cobbles, damp to dry, no odor                      |                                                                                                                                                                                                                                          |        |              |            |
|                                                                                                                                                                            |               |                        | Dk Br f SAND, some Silt, trace c-m-f Gravel; occasional cobbles, no odor               | 20                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                            |               |                        | Dk Br f SAND, some Silt                                                                | 25                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                            |               |                        | Dk Br rounded COBBLES, some f Sand, trace c-m Gravel, trace Silt; no odor              | 30                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                            |               |                        | Dk Br rounded COBBLES, some f Sand, trace c-m Gravel, trace Silt; no odor              | 35                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                            |               |                        | Dk Br rounded COBBLES, some f Sand, trace c-m Gravel, trace Silt; no odor              | 40                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                            |               |                        | Dk Br rounded COBBLES, some Silty Clay, trace c-m Gravel, trace f Sand; moist, no odor | 45                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                            |               |                        | Dk Br rounded COBBLES, some Silty Clay, moist to wet, no odor                          | 50                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                            |               |                        | Dk Br c-m-f SAND, trace c-m Gravel, some Silt; running sands, saturated, no odor       | 55                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                                                                            |               |                        | Dk Br c-m-f SAND, trace c-m Gravel, some Silt; running sands, saturated, no odor       |                                                                                                                                                                                                                                          |        |              |            |
| <b>Notes:</b><br>No samples collected.<br>Perched ground water at 7' bgs.<br>Total depth - 58.5'<br>10' screen<br>Stick-up Well, top of casing elevation is 557.79 ft MSL. |               |                        |                                                                                        | <b>Abbreviation Legend:</b><br>f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                 Gr - Green<br>Bl - Black                 Lt - Light<br>Br - Brown                Dk - Dark |        |              |            |



## WELL LOG

|                                  |                               |                                           |
|----------------------------------|-------------------------------|-------------------------------------------|
| Well No.: <b>TMW-9D</b>          | Date: 6/26/02                 | Permit Number: WV00226-0021-02            |
| Project Name: BASF               | ELM Inspector: K. Pollack     | Boring Method: Hollow Stem Auger          |
| Project Location: Huntington, WV | Total Well Depth (ft): 54.5   | Sampler Type: Straight Augering           |
| Project No.: 99184               | Depth to Groundwater (ft): 35 | Drilling Contractor: Triad<br>M. Lupardis |

| Blow<br>Counts<br>or Rate                                                                                          | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                                                                               | Depth<br>ft (0.1)                                                                                                                                                                                                                        | Sample | PID<br>(ppm) | Completion |
|--------------------------------------------------------------------------------------------------------------------|---------------|------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                                                    |               |                        | GRAVEL<br>No lithology described                                                                            |                                                                                                                                                                                                                                          |        |              |            |
|                                                                                                                    |               |                        | No lithology described                                                                                      | 5                                                                                                                                                                                                                                        |        | 0            |            |
|                                                                                                                    |               |                        | No lithology described                                                                                      | 10                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                    |               |                        | Br Silty CLAY; no odor, pliable                                                                             | 15                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                    |               |                        | Br Silty CLAY, trace f Sand; no odor                                                                        | 20                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                    |               |                        | Br m-f SAND, trace Silt; no odor                                                                            | 25                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                    |               |                        | Br m-f SAND, trace Silt; no odor, moist                                                                     | 30                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                    |               |                        | Br f SAND, trace c-m Gravel, trace Silt;<br>running sands, no odor, saturated                               | 35                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                    |               |                        | Br f SAND, trace c-m Gravel, trace Silt;<br>running sands, no odor, saturated                               | 40                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                    |               |                        | Br f SAND, some Silt, trace c-m Gravel;<br>running sands, occasional rounded cobbles,<br>saturated, no odor | 45                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                    |               |                        | Br f SAND, some Silt, trace c-m Gravel;<br>running sands, occasional rounded cobbles,<br>saturated, no odor | 50                                                                                                                                                                                                                                       |        | 0            |            |
|                                                                                                                    |               |                        | Br f SAND, some Silt, trace c-m Gravel;<br>running sands, occasional rounded cobbles,<br>saturated, no odor | 55                                                                                                                                                                                                                                       |        | 0            |            |
| <b>Notes:</b><br>Bedrock at 57.5'<br>Total depth 54.5' bgs.<br>Screen 10'<br>Stick-up Well<br>No samples collected |               |                        |                                                                                                             | <b>Abbreviation Legend:</b><br>f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                 Gr - Green<br>Bl - Black                 Lt - Light<br>Br - Brown                Dk - Dark |        |              |            |



## WELL LOG

|                                  |                                |                                       |
|----------------------------------|--------------------------------|---------------------------------------|
| Well No.: <b>TMW-11S</b>         | Date: 1/12/04                  | Permit Number: WV00055-0001-05        |
| Project Name: BASF               | ELM Inspector: L. LaPort       | Boring Method: Hollow Stem Auger      |
| Project Location: Huntington, WV | Total Well Depth (ft): 35      | Sampler Type: Drill Cuttings          |
| Project No.: 99184               | Depth to Groundwater (ft): --- | Drilling Contractor: H.C. Nutting Co. |

| Blow Counts<br>or Rate                                                                       | %<br>Recovery | Soil Description/Observations/Samples                                               | Depth<br>(feet)                                                                                                                                                                                                                           | Sample | PID<br>(ppm) | Completion |
|----------------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                              |               | Gy STONE; angular, 1-3" diameter.<br>Gy STONE; angular, rail basalt, 4'6" diameter. | 2                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                              |               | Burgandy c SAND, some c-f Gravel.                                                   | 4                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                              |               | Burgandy c SAND, some Silty Clay; dry.                                              | 6                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                              |               |                                                                                     | 8                                                                                                                                                                                                                                         |        |              |            |
|                                                                                              |               | Burgandy/Maroon c-f SAND, trace c-f Gravel;<br>moist.                               | 10                                                                                                                                                                                                                                        |        | 0            |            |
|                                                                                              |               |                                                                                     | 12                                                                                                                                                                                                                                        |        |              |            |
|                                                                                              |               |                                                                                     | 14                                                                                                                                                                                                                                        |        | 0            |            |
|                                                                                              |               | Burgandy/Maroon c-f SAND, some c-f Gravel,<br>little Clay; moist.                   | 16                                                                                                                                                                                                                                        |        |              |            |
|                                                                                              |               |                                                                                     | 18                                                                                                                                                                                                                                        |        |              |            |
|                                                                                              |               |                                                                                     | 20                                                                                                                                                                                                                                        |        | 0            |            |
|                                                                                              |               |                                                                                     | 22                                                                                                                                                                                                                                        |        |              |            |
|                                                                                              |               |                                                                                     | 24                                                                                                                                                                                                                                        |        | 0            |            |
|                                                                                              |               |                                                                                     | 26                                                                                                                                                                                                                                        |        |              |            |
|                                                                                              |               |                                                                                     | 28                                                                                                                                                                                                                                        |        |              |            |
|                                                                                              |               |                                                                                     | 30                                                                                                                                                                                                                                        |        | 0            |            |
|                                                                                              |               |                                                                                     | 32                                                                                                                                                                                                                                        |        |              |            |
|                                                                                              |               |                                                                                     | 34                                                                                                                                                                                                                                        |        |              |            |
|                                                                                              |               |                                                                                     | 36                                                                                                                                                                                                                                        |        | 0            |            |
| <b>Notes:</b><br>Total depth 35' bgs.<br>Screen 10'<br>Stick-up Well<br>No samples collected |               |                                                                                     | <b>Abbreviation Legend:</b><br>f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                 Lt - Light<br>Br - Brown                Dk - Dark |        |              |            |



Princeton, New Jersey  
 Hollicong, Pennsylvania  
 Bethlehem, Pennsylvania  
 New York, New York  
 Boonton, New Jersey

# MONITORING WELL TMW-12D

PAGE 1 OF 2

|                                                                              |                                                      |
|------------------------------------------------------------------------------|------------------------------------------------------|
| <b>PROJECT NAME</b> <u>Former BASF Huntington Works Facility</u>             | <b>DATE STARTED</b> <u>7/7/09</u>                    |
| <b>PROJECT NUMBER</b> <u>099184</u>                                          | <b>DATE COMPLETED</b> <u>7/7/09</u>                  |
| <b>LOCATION</b> <u>5th Avenue &amp; 24th Street Huntington West Virginia</u> | <b>CASING TYPE/DIAMETER</b> <u>PVC</u>               |
| <b>DRILLING METHOD</b> <u>Hollow Stem Auger</u>                              | <b>SCREEN TYPE/SLOT</b> <u>4" PVC 10 Slot Screen</u> |
| <b>BOREHOLE DIAMETER</b> <u>8-inch</u>                                       | <b>GRAVEL PACK TYPE</b> <u>Medium Sand</u>           |
| <b>SAMPLING METHOD</b> <u>Macrocore / Split Spoon</u>                        | <b>SEAL TYPE</b> <u>Cement</u>                       |
| <b>LOGGED BY</b> <u>Brad Mescavage</u>                                       | <b>GROUT TYPE</b> <u>Bentonite</u>                   |
| <b>PERMIT #</b> <u>WV00271-0017-09</u>                                       | <b>DEPTH TO WATER (ft BGS)</b> <u>22.23</u>          |

ELM WELL CONSTRUCTION LOG - ELM DATA TEMPLATE.GDT - 5/13/10 10:27 - C:\PHASE II RFI BORING LOGS NEW.GPJ

| PID (ppm) | BLOW COUNTS | RECOVERY (feet) | CORE | ENV SAMPLE | DEPTH (ft. BGS) | GRAPHIC LOG | LITHOLOGIC DESCRIPTION                                          | CONTACT DEPTH | WELL DIAGRAM |
|-----------|-------------|-----------------|------|------------|-----------------|-------------|-----------------------------------------------------------------|---------------|--------------|
| 0         |             |                 |      |            | 0               |             | GRAVEL (dry)                                                    | 0.5           |              |
| 0         |             | 5               | AU 1 |            | 1               |             | Br, Or-Br silty CLAY (dry) (soft)                               |               |              |
| 0         |             |                 |      |            | 2               |             |                                                                 |               |              |
| 0         |             |                 |      |            | 3               |             |                                                                 |               |              |
| 0         |             |                 |      |            | 4               |             |                                                                 |               |              |
| 0         |             |                 |      |            | 5               |             | Brown, Orange Brown silty CLAY, trace gray mottled clay (moist) | 5.0           |              |
| 0         |             | 5               | MC 2 |            | 6               |             |                                                                 |               |              |
| 0         |             |                 |      |            | 7               |             |                                                                 |               |              |
| 0         |             |                 |      |            | 8               |             |                                                                 |               |              |
| 0         |             |                 |      |            | 9               |             |                                                                 |               |              |
| 0         |             |                 |      |            | 10              |             | Brown silty CLAY, trace f sand (moist)                          | 10.0          |              |
| 0         |             |                 |      |            | 11              |             |                                                                 |               |              |
| 0         |             | 5               | MC 3 |            | 12              |             | Brown f-m SAND (dry)                                            | 11.5          |              |
| 0         |             |                 |      |            | 13              |             | Brown, Red-Brown mottled silty CLAY (moist)                     | 11.7          |              |
| 0         |             |                 |      |            | 14              |             |                                                                 |               |              |
| 0         |             |                 |      |            | 15              |             | Brown f-m SAND (dry)                                            | 15.0          |              |
| 0         |             |                 |      |            | 16              |             | Brown silty f-m SAND (dry)                                      | 15.6          |              |
| 0         |             |                 |      |            | 17              |             | Brown silty CLAY, some f-m sand (dry)                           | 16.5          |              |
| 0         |             | 5               | MC 4 |            | 18              |             | Brown, Orange-Brown, Gray f-m SAND, some silt (wet)             | 17.4          |              |
| 0         |             |                 |      |            | 19              |             | Gray CLAY (wet)                                                 | 18.7          |              |
| 0         |             |                 |      |            | 20              |             | Orange-Brown f-m SAND, trace c sand (dry)                       | 20.0          |              |
| 0         |             |                 |      |            | 21              |             |                                                                 |               |              |
| 0         |             | 3.5             | MC 5 |            | 22              |             | Orange-Brown f-c SAND (wet)                                     | 21.5          |              |
| 0         |             |                 |      |            | 23              |             | Gray f-c SAND, trace gravel (wet)                               | 23.2          |              |
| 0         |             |                 |      |            | 24              |             | No Recovery                                                     | 23.5          |              |
| 0         |             |                 |      |            | 25              |             |                                                                 |               |              |
| 0         |             |                 |      |            | 26              |             | Gray f-c SAND (wet)                                             | 25.0          |              |
| 0         |             |                 |      |            | 27              |             | GRAVEL (wet)                                                    | 26.5          |              |
| 0         |             | 4               | MC 6 |            | 28              |             | Brown, Orange-Brown f-c SAND, some s-m gravel (wet)             | 26.7          |              |
| 0         |             |                 |      |            | 29              |             |                                                                 |               |              |
| 0         |             |                 |      |            |                 |             | No Recovery                                                     | 29.2          |              |
| 0         |             |                 |      |            |                 |             |                                                                 | 30.0          |              |

- Cement Seal

4" PVC Riser

## MONITORING WELL TMW-12D

PAGE 2 OF 2

|                   |                                                   |                         |                       |
|-------------------|---------------------------------------------------|-------------------------|-----------------------|
| PROJECT NAME      | Former BASF Huntington Works Facility             | DATE STARTED            | 7/7/09                |
| PROJECT NUMBER    | 099184                                            | DATE COMPLETED          | 7/7/09                |
| LOCATION          | 5th Avenue & 24th Street Huntington West Virginia | CASING TYPE/DIAMETER    | PVC                   |
| DRILLING METHOD   | Hollow Stem Auger                                 | SCREEN TYPE/SLOT        | 4" PVC 10 Slot Screen |
| BOREHOLE DIAMETER | 8-inch                                            | GRAVEL PACK TYPE        | Medium Sand           |
| SAMPLING METHOD   | Macrocore / Split Spoon                           | SEAL TYPE               | Cement                |
| LOGGED BY         | Brad Mescavage                                    | GROUT TYPE              | Bentonite             |
| PERMIT #          | WV00271-0017-09                                   | DEPTH TO WATER (ft BGS) | 22.23                 |

[illegible]



# State of West Virginia Department of Environmental Protection

Monitoring Well Construction  
Well Number: WV00226-0022-02

**Site Name/Physical Address:**

Site: BASF  
Line 1: 24 th Street & 5 th Avenue  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
County: Cabell

**Well Registration No. WV00226-0022-02**

**Grid Location:**  
**a. Latitude:** 38 25 31 .8  
**b. Longitude:** 82 24 55 .0  
**c. Method Used:** GPS

**Purpose of Monitoring Well:**

TO OBTAIN GROUNDWATER SAMPLES

**Well Owner (Name, Firm, Address):**

Owner: BASF  
Line 1: 24 th Street & 5 th Ave.  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
Phone: 304-528-2316

**Installed By (Name, Firm, Address):**

Installer: Mark Lupardus  
Line 1: Triad Engineering, Inc.  
Line 2: P.O. Box 1435  
City: St. Albans  
State: WV  
Zip: 25177-1435  
Phone: 304-755-0721

**Date Well Installed:**

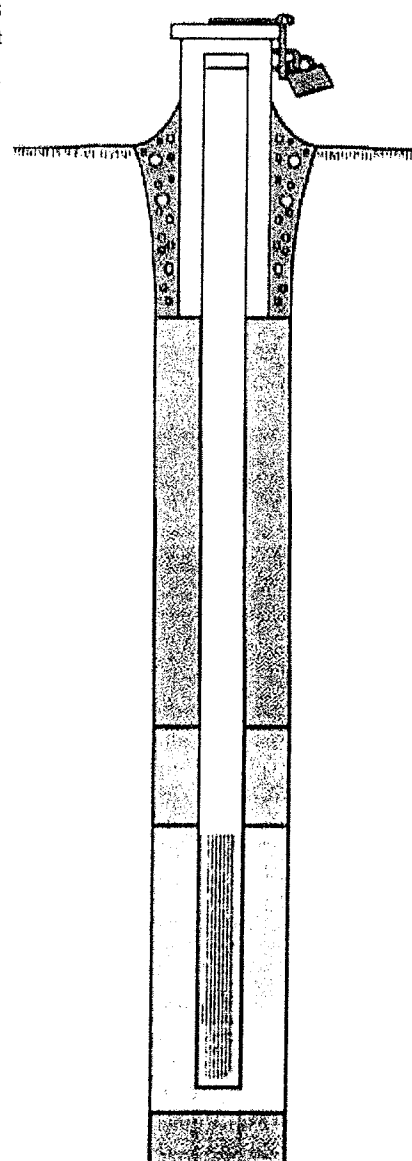
06/26/2002

**Driller's WV Cert No.**

WV00226

**Section B: (all number fields must be in decimal format)**

- 1.Cap and Lock: YES
- 2.Protective Cover: Flush Mount
- 3.Monitoring Well Reference Point: 0 ft.
- 4.Borehole Diameter: 10 inches.
- 5.Ground Surface Seal:
  - a.Material: bentonite-cement grout
  - b.Installation Procedure: hand placed
- 6.Surface Seal Bottom/Annular Space Top: 3 ft.
- 7.Well Riser: a.OD Well Riser: 2.38 inches. b.ID Well Riser: 2 inches.
  - c.Material: PVC
  - d.Installation Procedure: hand placed
- 8.Annular Space Seal:
  - a.Material: cement grout -
  - b.Installation Procedure: tremie pipe-pumped
- 9.Well Development Procedure: other - bailed
- 10.Drilling Method Used: hollow stem auger -
- 11.Annular Space Seal Bottom/Filter Pack Top: 38 ft.
- 12.Drilling Fluid Used: No Source: Air
- 13.Filter Pack Seal:
  - a.Material: bentonite pellet
  - b.Installation Procedure: Gravity Fed
  - c.Volume Added: 50 pounds
- 14.Filter Pack Seal Bottom/Filter Pack Top: 40 ft.
- 15.Depth to Top of Screen: 43.5 ft.
- 16.Screen:
  - a.Material: PVC
  - b.Installation Procedure: hand placed
  - c.Slot Size: .01 inches. d.Screen Length: 10 ft.
- 17.Filter Pack:
  - a.Material: coarse sand
  - b.Installation Procedure: poured
- 18.Well Depth: 53.5 ft.
- 19.Bottom of Filter Pack: 53.5 ft.
- 20.Bottom of Borehole: 60 ft.
- 21.Backfill Material (below filter pack): in-situ sand and gravel
- 22.Decontamination Procedures: steam cleaned
- 23.Special Circumstances and Exceptions: No Number:
- 24.WV Contractor License No. 006875



# State of West Virginia Department of Environmental Protection

Monitoring Well Construction  
Well Number: WV00226-0017-02

**Site Name/Physical Address:**

Site: BASF  
Line 1: 24 th Street & 5 th Avenue  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
County: Cabell

**Well Registration No. WV00226-0017-02**

**Grid Location:**  
**a. Latitude:** 38 25 19 .9  
**b. Longitude:** 82 24 52 .9  
**c. Method Used:** GPS

**Purpose of Monitoring Well:**

groundwater monitoring

**Company/Project Well No.:**

TMW-2D

**Well Owner (Name, Firm, Address):**

Owner: BASF  
Line 1: 24 th Street & 5 th Ave.  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
Phone: 304-528-2316

**Installed By (Name, Firm, Address):**

Installer: Mark Lupardus  
Line 1: Triad Engineering, Inc.  
Line 2: P.O. Box 1435  
City: St. Albans  
State: WV  
Zip: 25177-1435  
Phone: 304-755-0721

**Date Well Installed:**

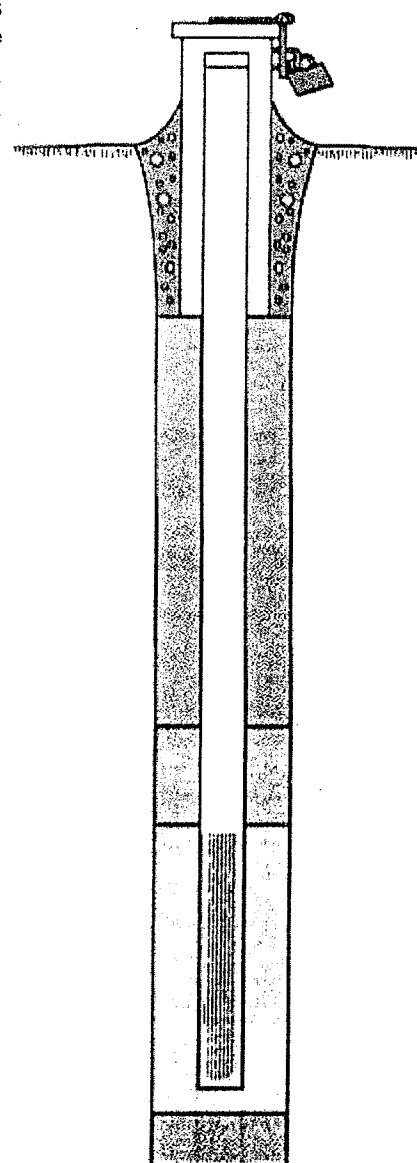
06/21/2002

**Driller's WV Cert No.**

WV00226

**Section B: (all number fields must be in decimal format)**

- 1.Cap and Lock: YES
- 2.Protective Cover: Protective Cover Pipe
- 3.Monitoring Well Reference Point: 0 ft.
- 4.Borehole Diameter: 10 inches.
- 5.Ground Surface Seal:
  - a.Material: bentonite-cement grout
  - b.Installation Procedure: hand placed
- 6.Surface Seal Bottom/Annular Space Top: 3 ft.
- 7.Well Riser: a.OD Well Riser: 2.38 inches. b.ID Well Riser: 2 inches.
  - c.Material: PVC
  - d.Installation Procedure: hand placed
- 8.Annular Space Seal:
  - a.Material: cement grout -
  - b.Installation Procedure: tremie pipe-pumped
- 9.Well Development Procedure: other - bailed
- 10.Drilling Method Used: hollow stem auger -
- 11.Annular Space Seal Bottom/Filter Pack Top: 24 ft.
- 12.Drilling Fluid Used: No Source: Air
- 13.Filter Pack Seal:
  - a.Material: bentonite pellet
  - b.Installation Procedure: Gravity Fed
  - c.Volume Added: 50 pounds
- 14.Filter Pack Seal Bottom/Filter Pack Top: 26 ft.
- 15.Depth to Top of Screen: 28 ft.
- 16.Screen:
  - a.Material: PVC
  - b.Installation Procedure: hand placed
  - c.Slot Size: .01 inches. d.Screen Length: 10 ft.
- 17.Filter Pack:
  - a.Material: coarse sand
  - b.Installation Procedure: poured
- 18.Well Depth: 38 ft.
- 19.Bottom of Filter Pack: 38 ft.
- 20.Bottom of Borehole: 60 ft.
- 21.Backfill Material (below filter pack): in-situ sand and gravel
- 22.Decontamination Procedures: steam cleaned
- 23.Special Circumstances and Exceptions: No Number:
- 24.WV Contractor License No. WV6875



# State of West Virginia Department of Environmental Protection

Monitoring Well Construction  
Well Number: WV00226-0015-02

**Site Name/Physical Address:**

Site: BASF  
Line 1: 24 th Street & 5 th Avenue  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
County: Cabell

**Well Registration No. WV00226-0015-02**

**Grid Location:**  
a. Latitude: 38 25 31 .2  
b. Longitude: 82 24 49 .4  
c. Method Used: GPS

**Purpose of Monitoring Well:**

Groundwater monitoring

**Company/Project Well No.:**

TMW-3D

**Well Owner (Name, Firm, Address):**

Owner: BASF  
Line 1: 24 th Street & 5 th Ave.  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
Phone: 304-528-2316

**Installed By (Name, Firm, Address):**

Installer: Mark Lupardus  
Line 1: Triad Engineering, Inc.  
Line 2: P.O. Box 1435  
City: St. Albans  
State: WV  
Zip: 25177-1435  
Phone: 304-755-0721

**Date Well Installed:**

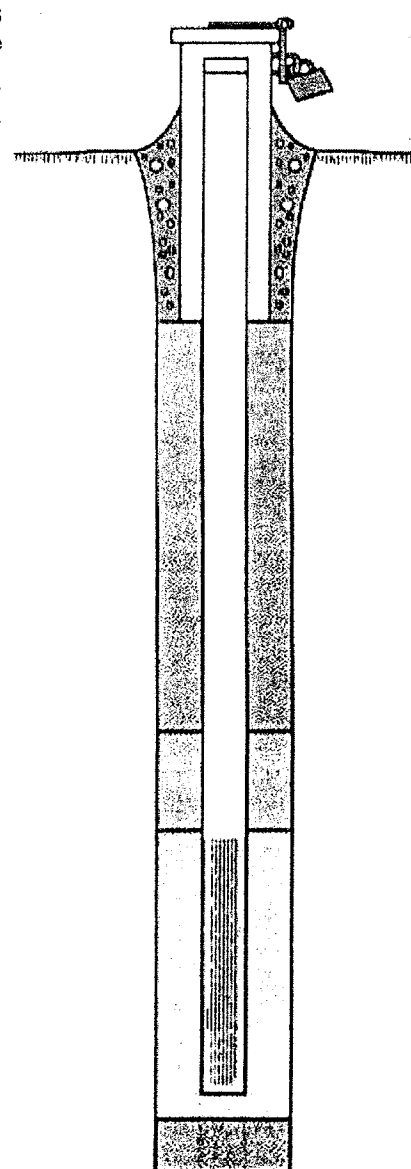
06/19/2002

**Driller's WV Cert No.**

WV00226

**Section B:** (all number fields must be in decimal format)

- 1.Cap and Lock: YES
- 2.Protective Cover: Protective Cover Pipe
- 3.Monitoring Well Reference Point: 0 ft.
- 4.Borehole Diameter: 10 inches.
- 5.Ground Surface Seal:
  - a.Material: bentonite-cement grout
  - b.Installation Procedure: hand placed
- 6.Surface Seal Bottom/Annular Space Top: 3 ft.
- 7.Well Riser: a.OD Well Riser: 2.38 inches. b.ID Well Riser: 2 inches.
  - c.Material: PVC
  - d.Installation Procedure: hand placed
- 8.Annular Space Seal:
  - a.Material: cement grout -
  - b.Installation Procedure: tremie pipe-pumped
- 9.Well Development Procedure: other - bailed
- 10.Drilling Method Used: hollow stem auger -
- 11.Annular Space Seal Bottom/Filter Pack Top: 44 ft.
- 12.Drilling Fluid Used: No Source: Air
- 13.Filter Pack Seal:
  - a.Material: bentonite pellet
  - b.Installation Procedure: Gravity Fed
  - c.Volume Added: 50 pounds
- 14.Filter Pack Seal Bottom/Filter Pack Top: 46 ft.
- 15.Depth to Top of Screen: 48 ft.
- 16.Screen:
  - a.Material: PVC
  - b.Installation Procedure: hand placed
  - c.Slot Size: .01 inches. d.Screen Length: 10 ft.
- 17.Filter Pack:
  - a.Material: coarse sand
  - b.Installation Procedure: poured
- 18.Well Depth: 58 ft.
- 19.Bottom of Filter Pack: 58 ft.
- 20.Bottom of Borehole: 60 ft.
- 21.Backfill Material (below filter pack): in-situ sand
- 22.Decontamination Procedures: steam cleaned
- 23.Special Circumstances and Exceptions: No Number:
- 24.WV Contractor License No. wv6875



# State of West Virginia Department of Environmental Protection

Monitoring Well Construction  
Well Number: WV00226-0013-02

**Site Name/Physical Address:**

Site: BASF  
Line 1: 24 th Street & 5 th Avenue  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
County: Cabell

**Well Registration No. WV00226-0013-02**

Grid Location:  
a. Latitude: 38 25 21 .2  
b. Longitude: 82 24 50 .7  
c. Method Used: GPS

**Purpose of Monitoring Well:**

monitor groundwater

**Company/Project Well No.:**

TMW-4S

**Well Owner (Name, Firm, Address):**

Owner: BASF  
Line 1: 24 th Street & 5 th Avenue  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
Phone: 304-528-2316

**Installed By (Name, Firm, Address):**

Installer: Mark Lupardus  
Line 1: Triad Engineering, Inc.  
Line 2: P.O. Box 1435  
City: St. Albans  
State: WV  
Zip: 25177-1435  
Phone: 304-755-0721

**Date Well Installed:**

06/18/2002

**Driller's WV Cert No.**

WV00226

**Section B: (all number fields must be in decimal format)**

- 1.Cap and Lock:
- 2.Protective Cover:
- 3.Monitoring Well Reference Point:
- 4.Borehole Diameter:
- 5.Ground Surface Seal:
  - a.Material: bentonite-cement grout
  - b.Installation Procedure: hand placed
- 6.Surface Seal Bottom/Annular Space Top:
- 7.Well Riser: a.OD Well Riser: 2.38 inches. b.ID Well Riser: 2 inches.
  - c.Material: PVC
  - d.Installation Procedure: hand placed
- 8.Annular Space Seal:
  - a.Material: cement grout -
  - b.Installation Procedure: tremie pipe-pumped
- 9.Well Development Procedure: other - bailed
- 10.Drilling Method Used: hollow stem auger -
- 11.Annular Space Seal Bottom/Filter Pack Top:
- 12.Drilling Fluid Used: No Source: Air
- 13.Filter Pack Seal:
  - a.Material: bentonite pellet
  - b.Installation Procedure: Gravity Fed
  - c.Volume Added: 50 pounds
- 14.Filter Pack Seal Bottom/Filter Pack Top:
- 15.Depth to Top of Screen:
- 16.Screen:
  - a.Material: PVC
  - b.Installation Procedure: hand placed
  - c.Slot Size: .01 inches. d.Screen Length: 5 ft.
- 17.Filter Pack:
  - a.Material: coarse sand
  - b.Installation Procedure: poured
- 18.Well Depth:
- 19.Bottom of Filter Pack:
- 20.Bottom of Borehole:
- 21.Backfill Material (below filter pack): in-situ sand and gravel
- 22.Decontamination Procedures: steam cleaned
- 23.Special Circumstances and Exceptions: No Number:
- 24.WV Contractor License No. wv6875

YES  
Flush Mount

0 ft.  
10 inches.

3 ft.

17 ft.

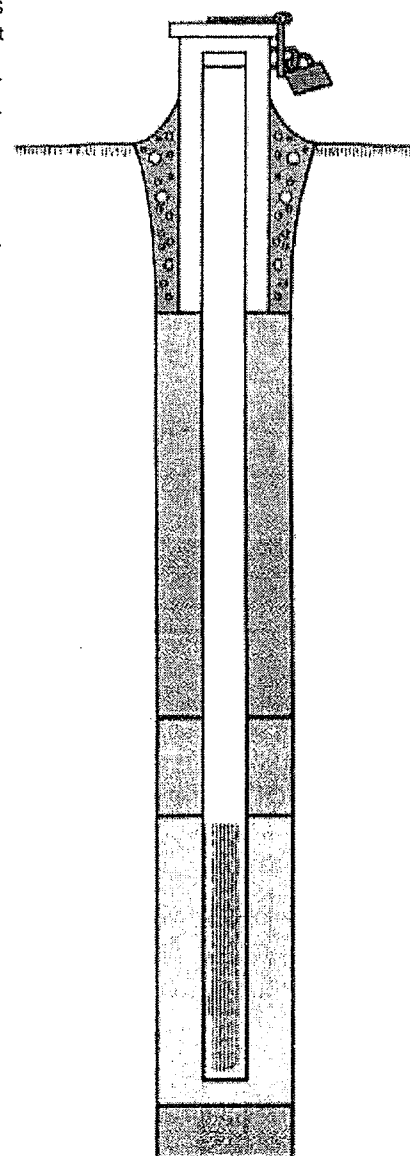
19 ft.

20 ft.

30 ft.

30 ft.

30 ft.



# State of West Virginia Department of Environmental Protection

Monitoring Well Construction  
Well Number: WV00226-0014-02

**Site Name/Physical Address:**

Site: BASF  
Line 1: 24 th Street & 5 th Avenue  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
County: Cabell

**Well Registration No. WV00226-0014-02**

**Grid Location:**  
a. Latitude: 38 25 21 .2  
b. Longitude: 82 24 50 .7  
c. Method Used: GPS

**Purpose of Monitoring Well:**

groundwater monitoring

**Company/Project Well No.:**

TMW-4D

**Well Owner (Name, Firm, Address):**

Owner: BASF  
Line 1: 24 th Street & 5 th Ave.  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
Phone: 304-528-2316

**Installed By (Name, Firm, Address):**

Installer: Mark Lupardus  
Line 1: Triad Engineering, Inc.  
Line 2: P.O. Box 1435  
City: St. Albans  
State: WV  
Zip: 25177-1435  
Phone: 304-755-0721

**Date Well Installed:**

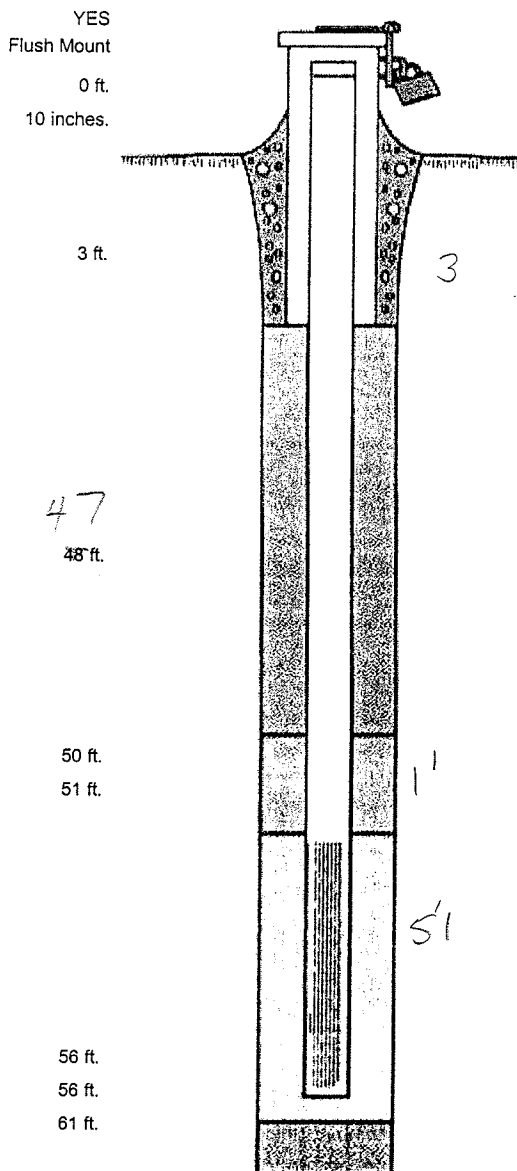
06/18/2002

**Driller's WV Cert No.**

WV00226

**Section B: (all number fields must be in decimal format)**

1. Cap and Lock: YES
2. Protective Cover: Flush Mount
3. Monitoring Well Reference Point: 0 ft.
4. Borehole Diameter: 10 inches.
5. Ground Surface Seal:
  - a. Material: bentonite-cement grout
  - b. Installation Procedure: hand placed
6. Surface Seal Bottom/Annular Space Top: 3 ft.
7. Well Riser: a. OD Well Riser: 2.38 inches. b. ID Well Riser: 2 inches.
- c. Material: PVC
- d. Installation Procedure: hand placed
8. Annular Space Seal:
  - a. Material: cement grout -
  - b. Installation Procedure: tremie pipe-pumped
9. Well Development Procedure: other - hand bailed
10. Drilling Method Used: hollow stem auger -
11. Annular Space Seal Bottom/Filter Pack Top: 47 48 ft.
12. Drilling Fluid Used: No Source: Air
13. Filter Pack Seal:
  - a. Material: bentonite pellet
  - b. Installation Procedure: Gravity Fed
  - c. Volume Added: 50 pounds
14. Filter Pack Seal Bottom/Filter Pack Top: 50 ft.
15. Depth to Top of Screen: 51 ft.
16. Screen:
  - a. Material: PVC
  - b. Installation Procedure: hand placed
  - c. Slot Size: .01 inches. d. Screen Length: 10 ft.
17. Filter Pack:
  - a. Material: coarse sand
  - b. Installation Procedure: poured
18. Well Depth: 56 ft.
19. Bottom of Filter Pack: 56 ft.
20. Bottom of Borehole: 61 ft.
21. Backfill Material (below filter pack): none
22. Decontamination Procedures: steam cleaned
23. Special Circumstances and Exceptions: No Number:
24. WV Contractor License No. WV6875



Monitoring Well Construction  
Well Number: WV00226-0018-02

**Purpose of Monitoring Well:**

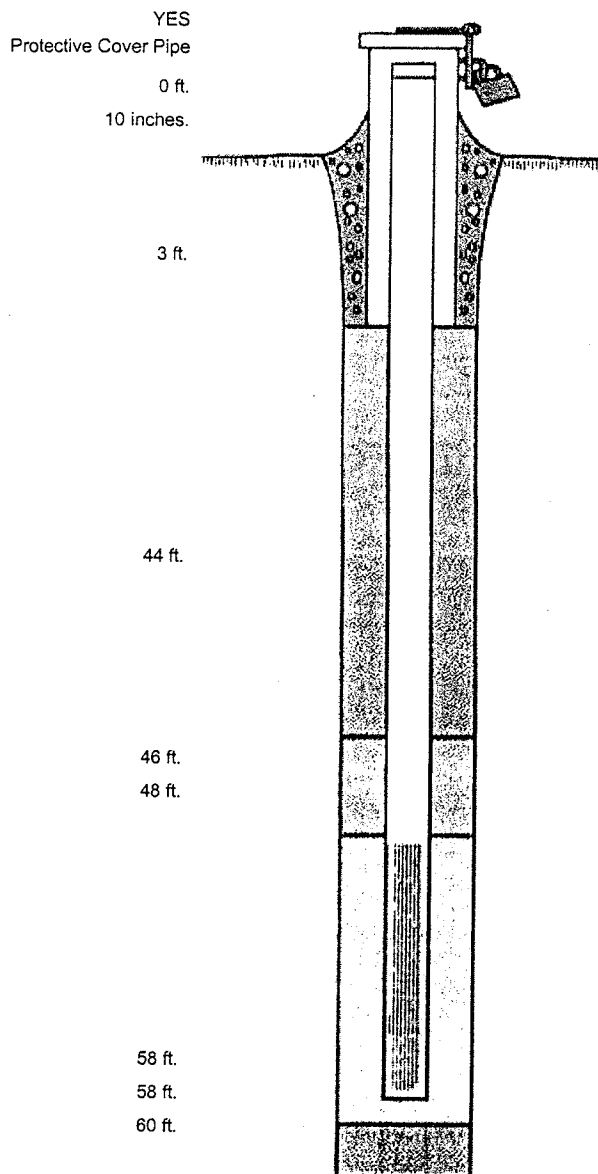
groundwater monitoring

**Date Well Installed:**  
06/24/2002

Driller's WV Cert No.  
WV00226

**Installer:** Mark Lupardus  
**Line 1:** Triad Engineering, Inc.  
**Line 2:** P.O. Box 1435  
**City:** St. Albans  
**State:** WV  
**Zip:** 25177-1435  
**Phone:** 304-755-0721

- 1.Cap and Lock:
- 2.Protective Cover:
- 3.Monitoring Well Reference Point:
- 4.Borehole Diameter:
- 5.Ground Surface Seal:
  - a.Material: bentonite-cement grout
  - b.Installation Procedure: hand placed
- 6.Surface Seal Bottom/Annular Space Top:
- 7.Well Riser: a.OD Well Riser: 2.38 inches. b.ID Well Riser: 2 inches.
  - c.Material: PVC
  - d.Installation Procedure: hand placed
- 8.Annular Space Seal:
  - a.Material: cement grout -
  - b.Installation Procedure: tremie pipe-pumped
- 9.Well Development Procedure: other - bailed
- 10.Drilling Method Used: hollow stem auger -
- 11.Annular Space Seal Bottom/Filter Pack Top:
- 12.Drilling Fluid Used: No Source: Air
- 13.Filter Pack Seal:
  - a.Material: bentonite pellet
  - b.Installation Procedure: Gravity Fed
  - c.Volume Added: 50 pounds
- 14.Filter Pack Seal Bottom/Filter Pack Top:
- 15.Depth to Top of Screen:
- 16.Screen:
  - a.Material: PVC
  - b.Installation Procedure: hand placed
  - c.Slot Size: .01 inches. d.Screen Length: 10 ft.
- 17.Filter Pack:
  - a.Material: coarse sand
  - b.Installation Procedure: poured
- 18.Well Depth:
- 19.Bottom of Filter Pack:
- 20.Bottom of Borehole:
- 21.Backfill Material (below filter pack): in-situ sand and gravel
- 22.Decontamination Procedures: steam cleaned
- 23.Special Circumstances and Exceptions: No Number:
- 24.WV Contractor License No. WV6875



# State of West Virginia Department of Environmental Protection

Monitoring Well Construction  
Well Number: WV00226-0016-02

**Site Name/Physical Address:**

Site: BASF  
Line 1: 24 th Street & 5 th Avenue  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
County: Cabell

**Well Registration No. WV00226-0016-02**

**Grid Location:**  
a. Latitude: 38 25 22 .4  
b. Longitude: 82 24 36 .2  
c. Method Used: GPS

**Purpose of Monitoring Well:**

groundwater monitoring

**Company/Project Well No.:**

TMW-6D

**Well Owner (Name, Firm, Address):**

Owner: BASF  
Line 1: 24 th Street & 5 th Ave.  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
Phone: 304-528-2316

**Installed By (Name, Firm, Address):**

Installer: Mark Lupardus  
Line 1: Triad Engineering, Inc.  
Line 2: P.O. Box 1435  
City: St. Albans  
State: WV  
Zip: 25177-1435  
Phone: 304-755-0721

**Date Well Installed:**

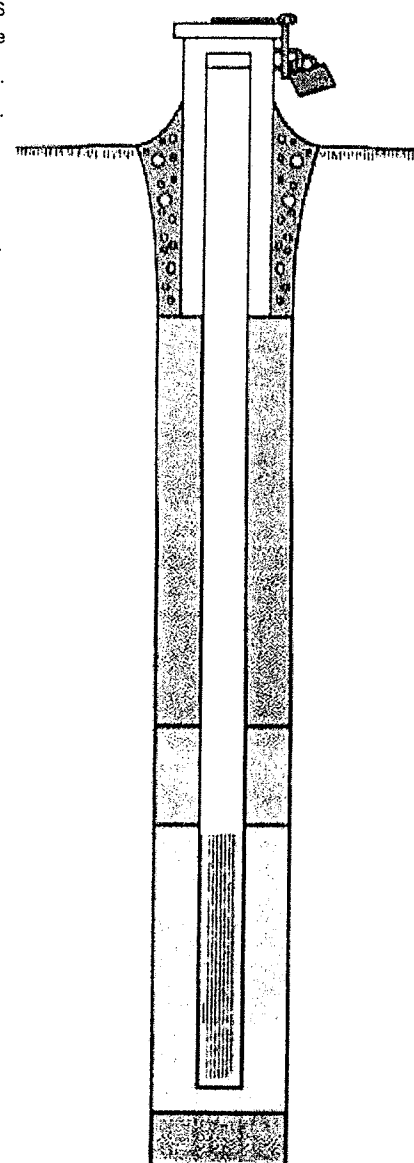
06/20/2002

**Driller's WV Cert No.**

WV00226

**Section B: (all number fields must be in decimal format)**

- 1.Cap and Lock: YES
- 2.Protective Cover: Protective Cover Pipe
- 3.Monitoring Well Reference Point: 0 ft.
- 4.Borehole Diameter: 10 inches.
- 5.Ground Surface Seal:
  - a.Material: bentonite-cement grout
  - b.Installation Procedure: hand placed
- 6.Surface Seal Bottom/Annular Space Top: 3 ft.
- 7.Well Riser: a.OD Well Riser: 2.38 inches. b.ID Well Riser: 2 inches.
  - c.Material: PVC
  - d.Installation Procedure: hand placed
- 8.Annular Space Seal:
  - a.Material: cement grout -
  - b.Installation Procedure: tremie pipe-pumped
- 9.Well Development Procedure: other - bailed
- 10.Drilling Method Used: hollow stem auger -
- 11.Annular Space Seal Bottom/Filter Pack Top: 41 ft.
- 12.Drilling Fluid Used: No Source: Air
- 13.Filter Pack Seal:
  - a.Material: bentonite pellet
  - b.Installation Procedure: Gravity Fed
  - c.Volume Added: 50 pounds
- 14.Filter Pack Seal Bottom/Filter Pack Top: 43 ft.
- 15.Depth to Top of Screen: 44 ft.
- 16.Screen:
  - a.Material: PVC
  - b.Installation Procedure: hand placed
  - c.Slot Size: .01 inches. d.Screen Length: 10 ft.
- 17.Filter Pack:
  - a.Material: coarse sand
  - b.Installation Procedure: poured
- 18.Well Depth: 54 ft.
- 19.Bottom of Filter Pack: 54 ft.
- 20.Bottom of Borehole: 57 ft.
- 21.Backfill Material (below filter pack): in-situ sand and gravel
- 22.Decontamination Procedures: steamed Cleaned
- 23.Special Circumstances and Exceptions: No Number:
- 24.WV Contractor License No. wv8875



# State of West Virginia Department of Environmental Protection

Monitoring Well Construction  
Well Number: WV00226-0019-02

**Site Name/Physical Address:**

Site: BASF  
Line 1: 24 th Street & 5 th Avenue  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
County: Cabell

**Well Registration No. WV00226-0019-02**

**Grid Location:**  
a. Latitude: 38 25 29 .7  
b. Longitude: 82 24 32 .6  
c. Method Used: GPS

**Purpose of Monitoring Well:**

groundwater monitoring

**Company/Project Well No.:**

TMW-7D

**Well Owner (Name, Firm, Address):**

Owner: BASF  
Line 1: 24 th Street & 5 th Ave.  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
Phone: 304-528-2316

**Installed By (Name, Firm, Address):**

Installer: Mark Lupardus  
Line 1: Triad Engineering, Inc.  
Line 2: P.O. Box 1435  
City: St. Albans  
State: WV  
Zip: 25177-1435  
Phone: 304-755-0721

**Date Well Installed:**

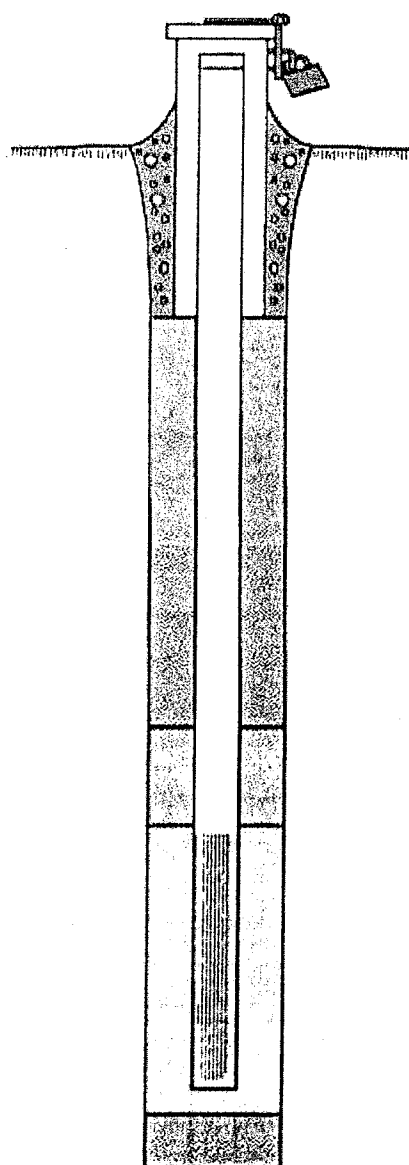
06/24/2002

**Driller's WV Cert No.**

WV00226

**Section B: (all number fields must be in decimal format)**

- 1.Cap and Lock: YES
- 2.Protective Cover: Protective Cover Pipe
- 3.Monitoring Well Reference Point: 0 ft.
- 4.Borehole Diameter: 10 inches.
- 5.Ground Surface Seal:
  - a.Material: bentonite-cement grout
  - b.Installation Procedure: hand placed
- 6.Surface Seal Bottom/Annular Space Top: 3 ft.
- 7.Well Riser: a.OD Well Riser: 2.38 inches. b.ID Well Riser: 2 inches.
  - c.Material: PVC
  - d.Installation Procedure: hand placed
- 8.Annular Space Seal:
  - a.Material: cement grout -
  - b.Installation Procedure: tremie pipe-pumped
- 9.Well Development Procedure: other - bailed
- 10.Drilling Method Used: hollow stem auger -
- 11.Annular Space Seal Bottom/Filter Pack Top: 38 ft.
- 12.Drilling Fluid Used: No Source: Air
- 13.Filter Pack Seal:
  - a.Material: bentonite pellet
  - b.Installation Procedure: Gravity Fed
  - c.Volume Added: 50 pounds
- 14.Filter Pack Seal Bottom/Filter Pack Top: 40 ft.
- 15.Depth to Top of Screen: 41.5 ft.
- 16.Screen:
  - a.Material: PVC
  - b.Installation Procedure: hand placed
  - c.Slot Size: .01 inches. d.Screen Length: 10 ft.
- 17.Filter Pack:
  - a.Material: coarse sand
  - b.Installation Procedure: poured
- 18.Well Depth: 51.5 ft.
- 19.Bottom of Filter Pack: 51.5 ft.
- 20.Bottom of Borehole: 60 ft.
- 21.Backfill Material (below filter pack): in-situ sand and gravel
- 22.Decontamination Procedures: steam cleaned
- 23.Special Circumstances and Exceptions: No Number:
- 24.WV Contractor License No. WV6875





# State of West Virginia Department of Environmental Protection

Monitoring Well Construction  
Well Number: WV00226-0020-02

**Site Name/Physical Address:**

Site: BASF  
Line 1: 24 th Street & 5 th Avenue  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
County: Cabell

**Well Registration No. WV00226-0020-02**

**Grid Location:**  
a. Latitude: 38 25 26 .9  
b. Longitude: 82 24 40 .2  
c. Method Used: GPS

**Purpose of Monitoring Well:**

groundwater monitoring

**Company/Project Well No.:**

TMW-8D

**Well Owner (Name, Firm, Address):**

Owner: BASF  
Line 1: 24 th Street & 5 th Ave.  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
Phone: 304-528-2316

**Installed By (Name, Firm, Address):**

Installer: Mark Lupardus  
Line 1: Triad Engineering, Inc.  
Line 2: P.O. Box 1435  
City: St. Albans  
State: WV  
Zip: 25177-1435  
Phone: 304-755-0721

**Date Well Installed:**

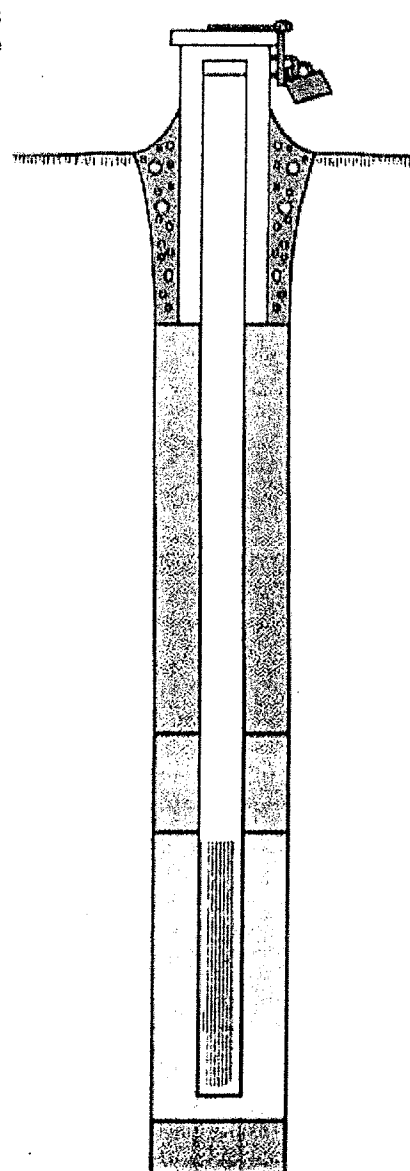
06/25/2002

**Driller's WV Cert No.**

WV00226

**Section B:** (all number fields must be in decimal format)

- 1.Cap and Lock: YES
- 2.Protective Cover: Protective Cover Pipe
- 3.Monitoring Well Reference Point: 0 ft.
- 4.Borehole Diameter: 10 inches.
- 5.Ground Surface Seal:
  - a.Material: bentonite-cement grout
  - b.Installation Procedure: hand placed
- 6.Surface Seal Bottom/Annular Space Top: 3 ft.
- 7.Well Riser: a.OD Well Riser: 2.38 inches. b.ID Well Riser: 2 inches.
- c.Material: PVC
- d.Installation Procedure: hand placed
- 8.Annular Space Seal:
  - a.Material: cement grout -
  - b.Installation Procedure: tremie pipe-pumped
- 9.Well Development Procedure: other - bailed
- 10.Drilling Method Used: hollow stem auger -
- 11.Annular Space Seal Bottom/Filter Pack Top: 44 ft.
- 12.Drilling Fluid Used: No Source: Air
- 13.Filter Pack Seal:
  - a.Material: bentonite pellet
  - b.Installation Procedure: Gravity Fed
  - c.Volume Added: 50 pounds
- 14.Filter Pack Seal Bottom/Filter Pack Top: 46 ft.
- 15.Depth to Top of Screen: 48.5 ft.
- 16.Screen:
  - a.Material: PVC
  - b.Installation Procedure: hand placed
  - c.Slot Size: .01 inches. d.Screen Length: 10 ft.
- 17.Filter Pack:
  - a.Material: coarse sand
  - b.Installation Procedure: poured
- 18.Well Depth: 58.5 ft.
- 19.Bottom of Filter Pack: 58.5 ft.
- 20.Bottom of Borehole: 60 ft.
- 21.Backfill Material (below filter pack): in-situ gravel
- 22.Decontamination Procedures: steam cleaned
- 23.Special Circumstances and Exceptions: No Number:
- 24.WV Contractor License No. WV6875



# State of West Virginia Department of Environmental Protection

Monitoring Well Construction  
Well Number: WV00226-0021-02

**Site Name/Physical Address:**

Site: BASF  
Line 1: 24 th Street & 5 th Avenue  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
County: Cabell

**Well Registration No. WV00226-0021-02**

**Grid Location:**  
a. **Latitude:** 38 25 31 .0  
b. **Longitude:** 82 25 1 .6  
c. **Method Used:** GPS

**Purpose of Monitoring Well:**

groundwater monitoring

**Company/Project Well No.:**

TMW-9D

**Well Owner (Name, Firm, Address):**

Owner: BASF  
Line 1: 24 th Street & 5 th Ave.  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-0000  
Phone: 304-528-2316

**Installed By (Name, Firm, Address):**

Installer: Mark Lupardus  
Line 1: Triad Engineering, Inc.  
Line 2: P.O. Box 1435  
City: St. Albans  
State: WV  
Zip: 25177-1435  
Phone: 304-755-0721

**Date Well Installed:**

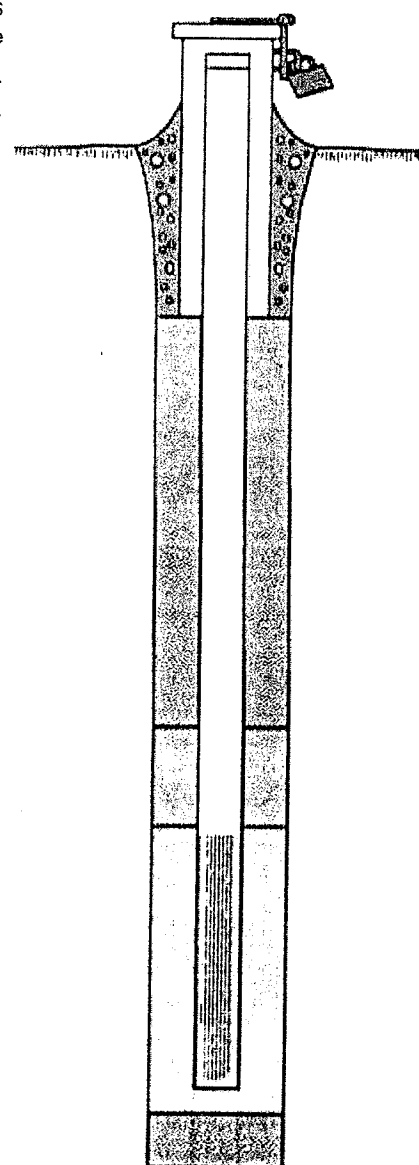
06/26/2002

**Driller's WV Cert No.**

WV00226

**Section B: (all number fields must be in decimal format)**

- 1.Cap and Lock: YES
- 2.Protective Cover: Protective Cover Pipe
- 3.Monitoring Well Reference Point: 0 ft.
- 4.Borehole Diameter: 10 inches.
- 5.Ground Surface Seal:
  - a.Material: bentonite-cement grout
  - b.Installation Procedure: hand placed
- 6.Surface Seal Bottom/Annular Space Top: 3 ft.
- 7.Well Riser: a.OD Well Riser: 2.38 inches. b.ID Well Riser: 2 inches.
  - c.Material: PVC
  - d.Installation Procedure: hand placed
- 8.Annular Space Seal:
  - a.Material: cement grout -
  - b.Installation Procedure: tremie pipe-pumped
- 9.Well Development Procedure: other - bailed
- 10.Drilling Method Used: hollow stem auger -
- 11.Annular Space Seal Bottom/Filter Pack Top: 41 ft.
- 12.Drilling Fluid Used: No Source: Air
- 13.Filter Pack Seal:
  - a.Material: bentonite pellet
  - b.Installation Procedure: Gravity Fed
  - c.Volume Added: 50 pounds
- 14.Filter Pack Seal Bottom/Filter Pack Top: 43 ft.
- 15.Depth to Top of Screen: 44.5 ft.
- 16.Screen:
  - a.Material: PVC
  - b.Installation Procedure: hand placed
  - c.Slot Size: .01 inches. d.Screen Length: 10 ft.
- 17.Filter Pack:
  - a.Material: coarse sand
  - b.Installation Procedure: poured
- 18.Well Depth: 54.5 ft.
- 19.Bottom of Filter Pack: 54.5 ft.
- 20.Bottom of Borehole: 57.5 ft.
- 21.Backfill Material (below filter pack): in-situ gravel
- 22.Decontamination Procedures: steam cleaned
- 23.Special Circumstances and Exceptions: No Number:
- 24.WV Contractor License No. WV6875



# State of West Virginia Department of Environmental Protection

Monitoring Well Construction  
Well Number: WV00055-0001-05A-MW-1

## Site Name/Physical Address:

Site: BASF  
Line 1: 24TH STREET & 5TH STREET  
Line 2:  
City: HUNTINGTON  
State: WV  
Zip: 25701-2070  
County: Cabell

## Well Owner (Name, Firm, Address):

Owner: ENVIRONMENTAL LIABILITY MANAGEMENT INC.  
Line 1: 218 WALL STREET RESEARCH PARK  
Line 2:  
City: PRINCETON  
State: NJ  
Zip: 08540-  
Phone: 609-683-4848

## Well Registration No. WV00055-0001-05

Grid Location:  
a. Latitude: 38 25 21 ..1  
b. Longitude: 82 24 50 ..7  
c. Method Used: Topo Pick

## Company/Project Well No.:

~~FW-115~~ TMW-115  
Installed By (Name, Firm, Address):  
Installer: H.C. NUTTING COMPANY  
Line 1: 912 MORRIS STREET  
Line 2:  
City: CHARLESTON  
State: WV  
Zip: 25301-  
Phone: 304-344-0821

## Purpose of Monitoring Well:

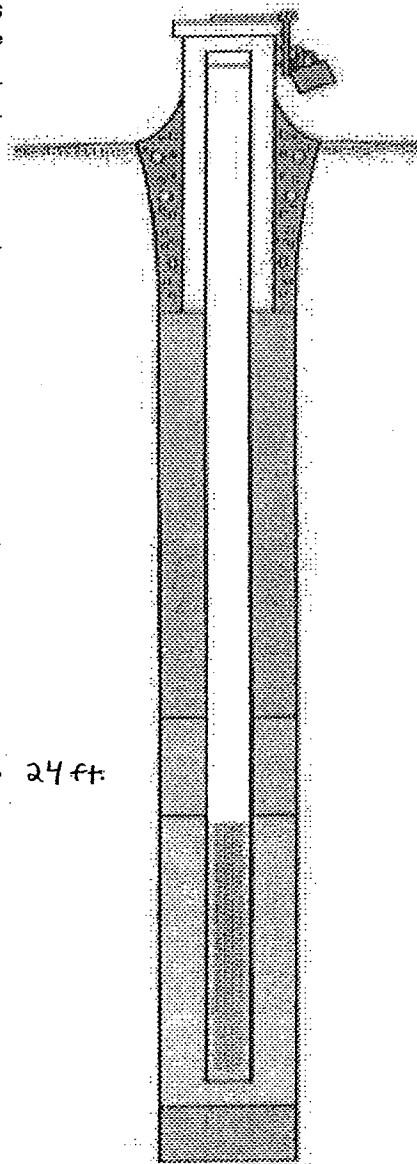
WATER QUALITY

Date Well Installed:  
01/12/2005

Driller's WV Cert No.  
WV00055

## Section B: (all number fields must be in decimal format)

1. Cap and Lock: YES
2. Protective Cover: Protective Cover Pipe
3. Monitoring Well Reference Point: 554.99 ft.
4. Borehole Diameter: 10 inches.
5. Ground Surface Seal:
  - a. Material: ~~concrete~~ sackrete
  - b. Installation Procedure: mixed in a bucket
6. Surface Seal Bottom/Annular Space Top: 2 ft.
7. Well Riser: a. OD Well Riser: 2.25 inches. b. ID Well Riser: 2 inches.
  - c. Material: PVC
  - d. Installation Procedure: threaded
8. Annular Space Seal:
  - a. Material: other - cement bentonite grout
  - b. Installation Procedure: tremie pipe-gravity
9. Well Development Procedure: other - none
10. Drilling Method Used: hollow stem auger -
11. Annular Space Seal Bottom/Filter Seal Top: 2.5 ft.
12. Drilling Fluid Used: No Source: Air
13. Filter Pack Seal:
  - a. Material: bentonite ~~chip~~ pellets
  - b. Installation Procedure: Gravity Fed
  - c. Volume Added: 8 pounds (50 LBS)
14. Bottom of Bentonite Seal/Filter Pack Top: 22 ft.
15. Depth to Top of Screen: ~~34 ft.~~ 24 ft.
16. Screen:
  - a. Material: PVC
  - b. Installation Procedure: threaded
  - c. Slot Size: 10 inches. d. Screen Length: 10 ft.
17. Filter Pack:
  - a. Material: fine sand
  - b. Installation Procedure: ~~mixed in bucket~~ Gravity fed
18. Well Depth: 34 ft.
19. Bottom of Filter Pack: 34 ft.
20. Bottom of Borehole: 34 ft.
21. Backfill Material (below filter pack): N/A
22. Decontamination Procedures: steam cleaner
23. Special Circumstances and Exceptions: No Variance Number: 011317
24. WV Contractor License No. WV00055



Submitted 7-9-09

# State of West Virginia Department of Environmental Protection

Monitoring Well Construction  
Well Number: WV00271-0017-09

**Site Name/Physical Address:**

Site: BASF  
Line 1: 2414 4th Ave.  
Line 2:  
City: Huntington  
State: WV  
Zip: 25703-  
County: Cabell

**Well Registration No. WV00271-0017-09**

**Grid Location:**  
a. Latitude: 38 25 32 .0  
b. Longitude: 82 24 55 .0  
c. Method Used: GPS

**Purpose of Monitoring Well:**

Groundwater Monitoring

**Well Owner (Name, Firm, Address):**

Owner: Joe Mckeeon  
Line 1: BASF Corporation  
Line 2: 100 Campus Drive  
City: Florham  
State: NJ  
Zip: 07932-  
Phone: 973-383-2649

**Installed By (Name, Firm, Address):**

Installer: Roy C Henderson  
Line 1: Enviroprobe Integrated Solutions, Inc.  
Line 2: 630 Cross Lanes Drive  
City: Nitro  
State: WV  
Zip: 25143-  
Phone: 304-776-6717

**Date Well Installed:**

07/08/2009

**Driller's WV Cert No.**

WV00271

**Section B: (all number fields must be in decimal format)**

1. Cap and Lock:
2. Protective Cover:
3. Monitoring Well Reference Point:
4. Borehole Diameter:
5. Ground Surface Seal:
  - a. Material: concrete
  - b. Installation Procedure: pour
6. Surface Seal Bottom/Annular Space Top:
7. Well Riser: a. OD Well Riser: 4.5 inches. b. ID Well Riser: 4.02 inches.
  - c. Material: PVC
  - d. Installation Procedure: flush threaded w/o-ring
8. Annular Space Seal:
  - a. Material: bentonite chip
  - b. Installation Procedure: pour
9. Well Development Procedure: surge/purge
10. Drilling Method Used: hollow stem auger
11. Annular Space Seal Bottom/Filter Seal Top:
12. Drilling Fluid Used: Yes Source: Water
13. Filter Pack Seal:
  - a. Material: bentonite chip
  - b. Installation Procedure: Gravity Fed
  - c. Volume Added: 100 pounds
14. Bottom of Bentonite Seal/Filter Pack Top:
15. Depth to Top of Screen:
16. Screen:
  - a. Material: PVC
  - b. Installation Procedure: flush threaded w/o-ring
  - c. Slot Size: 0.01 inches. d. Screen Length: 10 ft.
17. Filter Pack:
  - a. Material: medium sand
  - b. Installation Procedure: gravity fed w/weighted tape
18. Well Depth:
19. Bottom of Filter Pack:
20. Bottom of Borehole:
21. Backfill Material (below filter pack): native soil
22. Decontamination Procedures: pressure spray
23. Special Circumstances and Exceptions: No Variance Number:
24. WV Contractor License No

YES  
Flush Mount  
0 ft.  
11 inches.

2 ft.

38 ft.

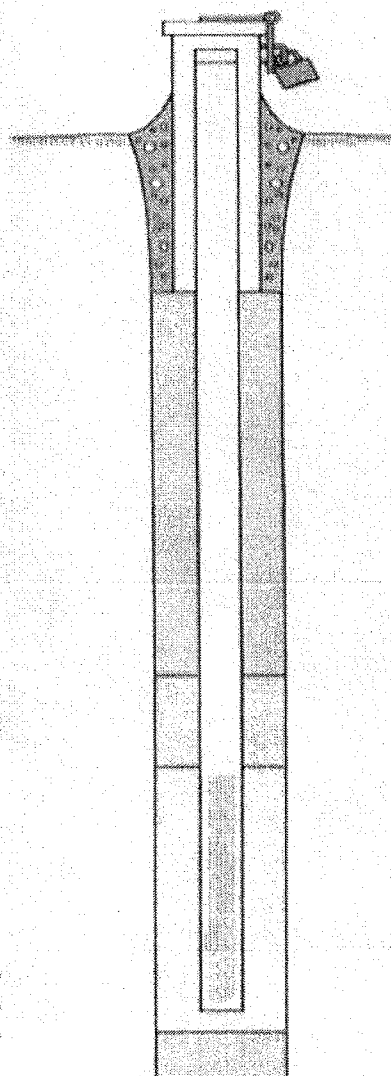
40 ft.

44.5 ft.

54.5 ft.

54.5 ft.

57 ft.





## WELL LOG

|                                  |                               |                              |
|----------------------------------|-------------------------------|------------------------------|
| Well No.: <b>WP-1</b>            | Date: 2/20/03                 | Permit Number: NA            |
| Project Name: BASF               | ELM Inspector: R. Murray      | Boring Method: Auger         |
| Project Location: Huntington, WV | Total Well Depth (ft): 54.5   | Sampler Type: Drill Cuttings |
| Project No.: 99184               | Depth to Groundwater (ft): 30 | Drilling Contractor: Triad   |

| Blow<br>Counts<br>or Rate                                                                                                                                                                                                                                                                                                                                         | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations                  | Depth<br>ft (0.1)                                                                                                                                                                                                                          | Sample | PID<br>(ppm) | Completion |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                                                                                                                                                                                                                                                                                                   |               |                        | Or-Br f SAND and Silt                          | 0                                                                                                                                                                                                                                          |        | 0            |            |
|                                                                                                                                                                                                                                                                                                                                                                   |               |                        |                                                | 5                                                                                                                                                                                                                                          |        |              |            |
|                                                                                                                                                                                                                                                                                                                                                                   |               |                        | Or-Br m-f SAND, some Silt                      | 10                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                                                                                   |               |                        | Or-Tan c-f SAND                                | 15                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                                                                                                                                                                   |               |                        |                                                | 20                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                                                                                   |               |                        |                                                | 25                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                                                                                                                                                                   |               |                        | Or-Tan c-f SAND, some c-m Gravel; wet          | 30                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                                                                                   |               |                        |                                                | 35                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                                                                                                                                                                   |               |                        | Or-Tan c-f SAND, some c-m Gravel;<br>saturated | 40                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                                                                                   |               |                        |                                                | 45                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                                                                                                                                                                   |               |                        |                                                | 50                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                                                                                                                                   |               |                        |                                                | 55                                                                                                                                                                                                                                         |        |              |            |
| <b>Notes:</b><br>Advanced initial boring using 6" auger. Running sands made it impossible to set the well. Switched to 10" auger with plywood plug.<br>Used approx. 75 gallons of water during drilling.<br>Bedrock encountered at 54.5' bgs. Well set at 54.5' bgs.<br>Screened (10 slot) 44.5' to 54.5', PVC riser, natural pack. Purged 55 gallons at 1.2 gpm. |               |                        |                                                | <b>Abbreviation Legend:</b><br>f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                  Lt - Light<br>Br - Brown                Dk - Dark |        |              |            |



## WELL LOG

|                                  |                               |                              |
|----------------------------------|-------------------------------|------------------------------|
| Well No.: <b>WP-2</b>            | Date: 2/20/03                 | Permit Number: NA            |
| Project Name: BASF               | ELM Inspector: R. Murray      | Boring Method: Auger         |
| Project Location: Huntington, WV | Total Well Depth (ft): 55     | Sampler Type: Drill Cuttings |
| Project No.: 99184               | Depth to Groundwater (ft): 30 | Drilling Contractor: Triad   |

| Blow<br>Counts<br>or Rate                                                                                                                                                                  | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations        | Depth<br>ft (0.1)                                                                                                                                                                                                                          | Sample | PID<br>(ppm) | Completion |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                                                                                                                            |               |                        | Or-Br SAND and SILT                  | 0                                                                                                                                                                                                                                          |        | 0            |            |
|                                                                                                                                                                                            |               |                        |                                      | 5                                                                                                                                                                                                                                          |        |              |            |
|                                                                                                                                                                                            |               |                        | Or-Br f SAND, tr Silt; moist         | 10                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                            |               |                        |                                      | 15                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                            |               |                        | Or-Br c-f SAND, tr m Gravel          | 20                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                            |               |                        | Or-Br c-m SAND, some c-f Gravel; wet | 25                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                            |               |                        |                                      | 30                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                            |               |                        |                                      | 35                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                            |               |                        |                                      | 40                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                            |               |                        |                                      | 45                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                            |               |                        |                                      | 50                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                            |               |                        |                                      | 55                                                                                                                                                                                                                                         |        |              |            |
| <b>Notes:</b><br>Used approx. 50 gallons water during drilling.<br>Bedrock encountered at 55'.<br>Screened (10 slot) 45' to 55', PVC riser, natural pack.<br>Purged 55 gallons at 1.2 gpm. |               |                        |                                      | <b>Abbreviation Legend:</b><br>f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                  Lt - Light<br>Br - Brown                Dk - Dark |        |              |            |



## WELL LOG

|                                  |                               |                              |
|----------------------------------|-------------------------------|------------------------------|
| Well No.: <b>WP-3</b>            | Date: 2/20/03                 | Permit Number: NA            |
| Project Name: BASF               | ELM Inspector: R. Murray      | Boring Method: Auger         |
| Project Location: Huntington, WV | Total Well Depth (ft): 56'    | Sampler Type: Drill Cuttings |
| Project No.: 99184               | Depth to Groundwater (ft): 30 | Drilling Contractor: Triad   |

| Blow<br>Counts<br>or Rate                                                                                                                                                                                      | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations   | Depth<br>ft (0.1)                                                                                                                                                                                                                          | Sample | PID<br>(ppm) | Completion |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                                                                                                                                                |               |                        | Or-Br c-f SAND, some Silt       | 0                                                                                                                                                                                                                                          |        | 0            |            |
|                                                                                                                                                                                                                |               |                        |                                 | 5                                                                                                                                                                                                                                          |        |              |            |
|                                                                                                                                                                                                                |               |                        | Or-Br f SAND and SILT; moist    | 10                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                |               |                        |                                 | 15                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                |               |                        | Or-Br c-f SAND, some m-f Gravel | 20                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                |               |                        | Or-Br c-f SAND                  | 25                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                |               |                        | Or-Br c-f SAND; wet             | 30                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                |               |                        |                                 | 35                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                |               |                        | Tan c-f SAND; wet               | 40                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                |               |                        |                                 | 45                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                |               |                        |                                 | 50                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                |               |                        |                                 | 55                                                                                                                                                                                                                                         |        |              |            |
| <b>Notes:</b><br>Used approx. 55 gallons water during drilling.<br>Bedrock encountered at 56'.<br>Set well at 53'.<br>Screened (10 slot) 43' to 53', PVC riser, natural pack.<br>Purged 55 gallons at 1.2 gpm. |               |                        |                                 | <b>Abbreviation Legend:</b><br>f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                  Lt - Light<br>Br - Brown                Dk - Dark |        |              |            |



## WELL LOG

|                                  |                               |                              |
|----------------------------------|-------------------------------|------------------------------|
| Well No.: <b>WP-4</b>            | Date: 2/21/03                 | Permit Number: NA            |
| Project Name: BASF               | ELM Inspector: R. Murray      | Boring Method: Auger         |
| Project Location: Huntington, WV | Total Well Depth (ft): 55.5   | Sampler Type: Drill Cuttings |
| Project No.: 99184               | Depth to Groundwater (ft): 30 | Drilling Contractor: Triad   |

| Blow<br>Counts<br>or Rate                                                                                                                                                                                                                                    | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations           | Depth<br>ft (0.1)                                                                                                                                                                                                                          | Sample | PID<br>(ppm) | Completion |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                                                                                                                                                                                              |               |                        | Or-Br f SAND and Silt                   | 0                                                                                                                                                                                                                                          |        | 0            |            |
|                                                                                                                                                                                                                                                              |               |                        |                                         | 5                                                                                                                                                                                                                                          |        |              |            |
|                                                                                                                                                                                                                                                              |               |                        |                                         | 10                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                              |               |                        |                                         | 15                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                                                              |               |                        | Gy f SAND                               | 20                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                              |               |                        |                                         | 25                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                                                              |               |                        | Br c-f SAND, some c-f Gravel            | 30                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                              |               |                        | Br c-f SAND, some c-f Gravel; wet       | 35                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                                                              |               |                        | Br c-f SAND, some c-f Gravel; saturated | 40                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                              |               |                        |                                         | 45                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                                                              |               |                        |                                         | 50                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                                                              |               |                        |                                         | 55                                                                                                                                                                                                                                         |        |              |            |
| <b>Notes:</b><br>Soil sample WP-4-35 collected @10:30.<br>Used approx. 50 gallons water during drilling.<br>Bedrock encountered at 55.5'. Well set at 53.5'.<br>Screened (10 slot) 43.5' to 53.5', PVC riser, natural pack.<br>Purged 55 gallons at 1.2 gpm. |               |                        |                                         | <b>Abbreviation Legend:</b><br>f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                  Lt - Light<br>Br - Brown                Dk - Dark |        |              |            |





## WELL LOG

|                                  |                               |                              |
|----------------------------------|-------------------------------|------------------------------|
| Well No.: <b>WP-5</b>            | Date: 2/21/03                 | Permit Number: NA            |
| Project Name: BASF               | ELM Inspector: R. Murray      | Boring Method: Auger         |
| Project Location: Huntington, WV | Total Well Depth (ft): 56     | Sampler Type: Drill Cuttings |
| Project No.: 99184               | Depth to Groundwater (ft): 30 | Drilling Contractor: Triad   |

| Blow<br>Counts<br>or Rate                                                                                                                                                                                    | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations        | Depth<br>ft (0.1)                                                                                                                                                                                                                          | Sample | PID<br>(ppm) | Completion |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                                                                                                                                              |               |                        | Or-Br f SAND and SILT                | 0                                                                                                                                                                                                                                          |        | 0            |            |
|                                                                                                                                                                                                              |               |                        |                                      | 5                                                                                                                                                                                                                                          |        |              |            |
|                                                                                                                                                                                                              |               |                        |                                      | 10                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                              |               |                        | Or-Br f SAND, some Silt              | 15                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                              |               |                        |                                      | 20                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                              |               |                        | Br c-f SAND, trace c-f Gravel        | 25                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                              |               |                        | Br c-f SAND, trace c-f Gravel; wet   | 30                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                              |               |                        |                                      | 35                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                              |               |                        | Or-Br c-f SAND, some c-f Gravel; wet | 40                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                              |               |                        |                                      | 45                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                              |               |                        |                                      | 50                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                              |               |                        |                                      | 55                                                                                                                                                                                                                                         |        |              |            |
| <b>Notes:</b><br>Used approx. 50 gallons water during drilling.<br>Bedrock encountered at 56'.<br>Set well at 53'.<br>Screened (10 slot) 43' to 53', PVC riser, natural pack<br>Purged 55 gallons at 1.2 gpm |               |                        |                                      | <b>Abbreviation Legend:</b><br>f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                  Lt - Light<br>Br - Brown                Dk - Dark |        |              |            |



## WELL LOG

|                                  |                               |                              |
|----------------------------------|-------------------------------|------------------------------|
| Well No.: <b>WP-6</b>            | Date: 2/21/03                 | Permit Number: NA            |
| Project Name: BASF               | ELM Inspector: R. Murray      | Boring Method: Auger         |
| Project Location: Huntington, WV | Total Well Depth (ft): 56'    | Sampler Type: Drill Cuttings |
| Project No.: 99184               | Depth to Groundwater (ft): 30 | Drilling Contractor: Triad   |

| Blow<br>Counts<br>or Rate                                                                                                                                                                                      | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations               | Depth<br>ft (0.1)                                                                                                                                                                                                                          | Sample | PID<br>(ppm) | Completion |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                                                                                                                                                |               |                        | Or-Br f SAND and SILT                       |                                                                                                                                                                                                                                            |        | 0            |            |
|                                                                                                                                                                                                                |               |                        | Or-Br f SAND, some Silt                     | 5                                                                                                                                                                                                                                          |        |              |            |
|                                                                                                                                                                                                                |               |                        |                                             | 10                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                |               |                        |                                             | 15                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                |               |                        |                                             | 20                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                |               |                        | Br c-f SAND, trace c-f Gravel               | 25                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                |               |                        | Br c-f SAND, trace c-f Gravel; wet          | 30                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                |               |                        | Or-Br c-f SAND, trace c-f Gravel; saturated | 35                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                |               |                        |                                             | 40                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                |               |                        |                                             | 45                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                |               |                        |                                             | 50                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                |               |                        |                                             | 55                                                                                                                                                                                                                                         |        |              |            |
| <b>Notes:</b><br>Used approx. 55 gallons water during drilling.<br>Bedrock encountered at 56'.<br>Well set at 52'.<br>Screened (10 slot) 42' to 52', PVC riser, natural pack.<br>Purged 55 gallons at 1.2 gpm. |               |                        |                                             | <b>Abbreviation Legend:</b><br>f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                  Lt - Light<br>Br - Brown                Dk - Dark |        |              |            |



## WELL LOG

|                                  |                               |                              |
|----------------------------------|-------------------------------|------------------------------|
| Well No.: <b>WP-7</b>            | Date: 2/24/03                 | Permit Number: NA            |
| Project Name: BASF               | ELM Inspector: R. Murray      | Boring Method: Auger         |
| Project Location: Huntington, WV | Total Well Depth (ft): 58     | Sampler Type: Drill Cuttings |
| Project No.: 99184               | Depth to Groundwater (ft): 30 | Drilling Contractor: Triad   |

| Blow<br>Counts<br>or Rate | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations     | Depth<br>ft (0.1) | Sample | PID<br>(ppm) | Completion |
|---------------------------|---------------|------------------------|-----------------------------------|-------------------|--------|--------------|------------|
|                           |               |                        | Or-Br f SAND, some Silt           | 0                 |        | 0            |            |
|                           |               |                        |                                   | 5                 |        |              |            |
|                           |               |                        |                                   | 10                |        | 0            |            |
|                           |               |                        |                                   | 15                |        |              |            |
|                           |               |                        | Br c-f SAND, some c-f Gravel      | 20                |        | 0            |            |
|                           |               |                        | Br c-f SAND                       | 25                |        |              |            |
|                           |               |                        | Br c-f SAND, some c-f Gravel; wet | 30                |        | 0            |            |
|                           |               |                        |                                   | 35                |        |              |            |
|                           |               |                        |                                   | 40                |        | 0            |            |
|                           |               |                        |                                   | 45                |        |              |            |
|                           |               |                        |                                   | 50                |        | 0            |            |
|                           |               |                        |                                   | 55                |        |              |            |

**Notes:**

Used approx. 55 gallons during drilling.  
 Bedrock encountered at 58'.  
 Well set at 55.5'.  
 Screened (10 slot) 45.5' to 55.5', PVC riser, natural pack.  
 Purged 55 gallons at 1.2 gpm

**Abbreviation Legend:**

|            |             |
|------------|-------------|
| f - fine   | Or - Orange |
| m - medium | Gy - Gray   |
| c - coarse | Gr - Green  |
| Bl - Black | Lt - Light  |
| Br - Brown | Dk - Dark   |



## WELL LOG

|                                  |                               |                              |
|----------------------------------|-------------------------------|------------------------------|
| Well No.: <b>WP-8</b>            | Date: 2/24/03                 | Permit Number: NA            |
| Project Name: BASF               | ELM Inspector: R. Murray      | Boring Method: Auger         |
| Project Location: Huntington, WV | Total Well Depth (ft): 57.5   | Sampler Type: Drill Cuttings |
| Project No.: 99184               | Depth to Groundwater (ft): 30 | Drilling Contractor: Triad   |

| Blow<br>Counts<br>or Rate                                                                                                                                                                                     | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations     | Depth<br>ft (0.1)                                                                                                                                                                                                                          | Sample | PID<br>(ppm) | Completion |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                                                                                                                                               |               |                        | Or-Br f SAND, some Silt           | 0                                                                                                                                                                                                                                          |        | 0            |            |
|                                                                                                                                                                                                               |               |                        |                                   | 5                                                                                                                                                                                                                                          |        |              |            |
|                                                                                                                                                                                                               |               |                        |                                   | 10                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                               |               |                        |                                   | 15                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                               |               |                        | Br c-f SAND, some c-f Gravel      | 20                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                               |               |                        | Br c-f SAND                       | 25                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                               |               |                        | Br c-f SAND, some c-f Gravel; wet | 30                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                               |               |                        |                                   | 35                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                               |               |                        |                                   | 40                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                               |               |                        |                                   | 45                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                               |               |                        |                                   | 50                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                               |               |                        |                                   | 55                                                                                                                                                                                                                                         |        |              |            |
| <b>Notes:</b><br>Used approx. 50 gallons water during drilling<br>Bedrock encountered at 57.5'<br>Set well at 52'.<br>Screened (10 slot) 42' to 52', PVC riser, natural pack<br>Purged 55 gallons at 1.2 gpm. |               |                        |                                   | <b>Abbreviation Legend:</b><br>f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                  Lt - Light<br>Br - Brown                Dk - Dark |        |              |            |



## WELL LOG

|                                  |                               |                              |
|----------------------------------|-------------------------------|------------------------------|
| Well No.: <b>WP-9</b>            | Date: 2/24/03                 | Permit Number: NA            |
| Project Name: BASF               | ELM Inspector: R. Murray      | Boring Method: Auger         |
| Project Location: Huntington, WV | Total Well Depth (ft): 56     | Sampler Type: Drill Cuttings |
| Project No.: 99184               | Depth to Groundwater (ft): 30 | Drilling Contractor: Triad   |

| Blow<br>Counts<br>or Rate                                                                                                                                                                                      | %<br>Recovery | Soil<br>Type<br>Symbol | Soil Description/Observations     | Depth<br>ft (0.1)                                                                                                                                                                                                                          | Sample | PID<br>(ppm) | Completion |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------|------------|
|                                                                                                                                                                                                                |               |                        | Or-Br f SAND, some Silt           | 0                                                                                                                                                                                                                                          |        | 0            |            |
|                                                                                                                                                                                                                |               |                        |                                   | 5                                                                                                                                                                                                                                          |        |              |            |
|                                                                                                                                                                                                                |               |                        |                                   | 10                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                |               |                        |                                   | 15                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                |               |                        | Br c-f SAND, some c-f Gravel      | 20                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                |               |                        | Br c-f SAND                       | 25                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                |               |                        | Br c-f SAND, some c-f Gravel; wet | 30                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                |               |                        |                                   | 35                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                |               |                        |                                   | 40                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                |               |                        |                                   | 45                                                                                                                                                                                                                                         |        |              |            |
|                                                                                                                                                                                                                |               |                        |                                   | 50                                                                                                                                                                                                                                         |        | 0            |            |
|                                                                                                                                                                                                                |               |                        |                                   | 55                                                                                                                                                                                                                                         |        |              |            |
| <b>Notes:</b><br>Used approx. 50 gallons water during drilling.<br>Bedrock encountered at 56'.<br>Well set at 55'.<br>Screened (10 slot) 45' to 55', PVC riser, natural pack.<br>Purged 55 gallons at 1.2 gpm. |               |                        |                                   | <b>Abbreviation Legend:</b><br>f - fine                      Or - Orange<br>m - medium                Gy - Gray<br>c - coarse                  Gr - Green<br>Bl - Black                  Lt - Light<br>Br - Brown                Dk - Dark |        |              |            |

## **ATTACHMENT D**

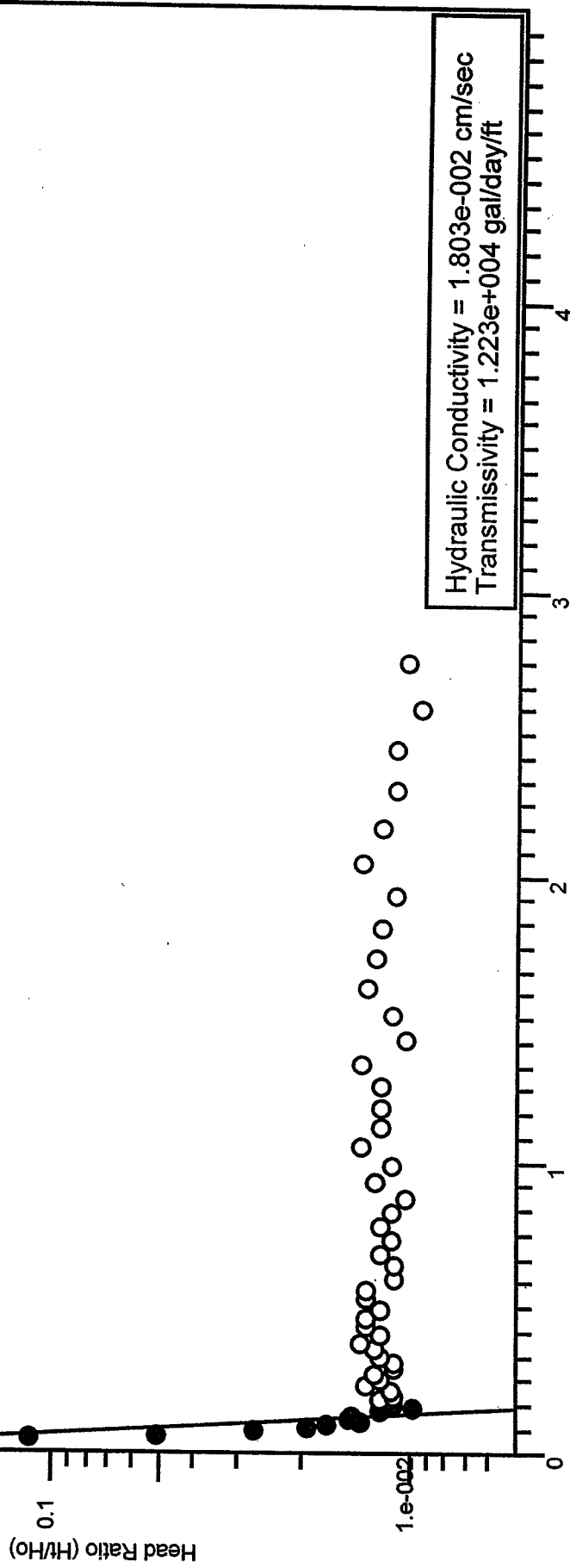
### **Slug Test Data**

**BASF**

Huntington, WV 2/20/03

# Bouwer and Rice Graph TMW-3D

Bouwer and Rice parameter A = 2.7  
Bouwer and Rice parameter B = 0.5  
 $\ln(R_e/R_w) = 3.093500e+000$   
Analysis starts at time 5.94 seconds  
Analysis ends at time 0.2683 minutes  
16 Measurements analyzed from 10 to 25



Project Number 99184

Adjusted Time (minutes)

$H_o$  is 2.634 feet at 5.94 seconds

Site Name: BASF  
 Location: Huntington, WV  
 Test Date: 2/20/03  
 Project Number: 99184  
 Import File: C:\DaveProj\99184\Aquifer Test Data\TMW-3D.txt

Well Label: TMW-3D  
 Aquifer Thickness: 32. feet  
 Screen Length: 10. feet  
 Casing Radius: 8.333e-002 feet  
 Effective Radius: 0.25 feet  
 Static Water Level: 0. feet  
 Water Table to Screen Bottom: 30. feet  
 Anisotropy Ratio: 1.  
 Time Adjustment: 5.94 Seconds

Test starts with trial 9

There are 68 time and drawdown measurements

Maximum head is 2.634 feet

Minimum head is 0. feet

| Trial | Time<br>(minutes) | Adjusted Time<br>(minutes) | Drawdown<br>(feet) | Head<br>(feet) | Head Ratio |
|-------|-------------------|----------------------------|--------------------|----------------|------------|
| 1     | 0.                | -9.9e-002                  | 0.                 | 0.             | 0.         |
| 2     | 1.1e-002          | -8.8e-002                  | 3.e-003            | 3.e-003        | 1.139e-003 |
| 3     | 2.2e-002          | -7.7e-002                  | 3.e-003            | 3.e-003        | 1.139e-003 |
| 4     | 3.3e-002          | -6.6e-002                  | 3.e-003            | 3.e-003        | 1.139e-003 |
| 5     | 4.4e-002          | -5.5e-002                  | 1.e-003            | 1.e-003        | 3.797e-004 |
| 6     | 5.5e-002          | -4.4e-002                  | 1.e-003            | 1.e-003        | 3.797e-004 |
| 7     | 6.6e-002          | -3.3e-002                  | 0.192              | 0.192          | 7.289e-002 |
| 8     | 7.7e-002          | -2.2e-002                  | 0.656              | 0.656          | 0.2491     |
| 9     | 8.8e-002          | -1.1e-002                  | 2.323              | 2.323          | 0.8819     |
| 10    | 9.9e-002          | 0.                         | 2.634              | 2.634          | 1.         |
| 11    | 0.11              | 1.1e-002                   | 2.401              | 2.401          | 0.9115     |
| 12    | 0.121             | 2.2e-002                   | 1.989              | 1.989          | 0.7551     |
| 13    | 0.132             | 3.3e-002                   | 1.233              | 1.233          | 0.4681     |
| 14    | 0.143             | 4.4e-002                   | 0.649              | 0.649          | 0.2464     |
| 15    | 0.154             | 5.5e-002                   | 0.304              | 0.304          | 0.1154     |
| 16    | 0.165             | 6.6e-002                   | 0.133              | 0.133          | 5.049e-002 |
| 17    | 0.176             | 7.7e-002                   | 7.2e-002           | 7.2e-002       | 2.733e-002 |
| 18    | 0.187             | 8.8e-002                   | 5.1e-002           | 5.1e-002       | 1.936e-002 |
| 19    | 0.198             | 9.9e-002                   | 4.5e-002           | 4.5e-002       | 1.708e-002 |
| 20    | 0.209             | 0.11                       | 3.6e-002           | 3.6e-002       | 1.367e-002 |
| 21    | 0.22              | 0.121                      | 3.9e-002           | 3.9e-002       | 1.481e-002 |
| 22    | 0.231             | 0.132                      | 3.8e-002           | 3.8e-002       | 1.443e-002 |
| 23    | 0.2427            | 0.1437                     | 3.2e-002           | 3.2e-002       | 1.215e-002 |
| 24    | 0.2552            | 0.1562                     | 2.6e-002           | 2.6e-002       | 9.871e-003 |
| 25    | 0.2683            | 0.1693                     | 2.9e-002           | 2.9e-002       | 1.101e-002 |
| 26    | 0.2823            | 0.1833                     | 3.2e-002           | 3.2e-002       | 1.215e-002 |
| 27    | 0.2972            | 0.1982                     | 2.9e-002           | 2.9e-002       | 1.101e-002 |
| 28    | 0.3128            | 0.2138                     | 3.e-002            | 3.e-002        | 1.139e-002 |
| 29    | 0.3295            | 0.2305                     | 3.5e-002           | 3.5e-002       | 1.329e-002 |
| 30    | 0.3472            | 0.2482                     | 3.2e-002           | 3.2e-002       | 1.215e-002 |
| 31    | 0.3658            | 0.2668                     | 3.3e-002           | 3.3e-002       | 1.253e-002 |
| 32    | 0.3857            | 0.2867                     | 2.9e-002           | 2.9e-002       | 1.101e-002 |
| 33    | 0.4067            | 0.3077                     | 2.9e-002           | 2.9e-002       | 1.101e-002 |
| 34    | 0.4288            | 0.3298                     | 3.2e-002           | 3.2e-002       | 1.215e-002 |
| 35    | 0.4523            | 0.3533                     | 3.3e-002           | 3.3e-002       | 1.253e-002 |
| 36    | 0.4772            | 0.3782                     | 3.6e-002           | 3.6e-002       | 1.367e-002 |
| 37    | 0.5035            | 0.4045                     | 3.2e-002           | 3.2e-002       | 1.215e-002 |



|    |        |        |          |          |            |
|----|--------|--------|----------|----------|------------|
| 38 | 0.5315 | 0.4325 | 3.5e-002 | 3.5e-002 | 1.329e-002 |
| 39 | 0.5612 | 0.4622 | 3.5e-002 | 3.5e-002 | 1.329e-002 |
| 40 | 0.5925 | 0.4935 | 3.2e-002 | 3.2e-002 | 1.215e-002 |
| 41 | 0.6257 | 0.5267 | 3.5e-002 | 3.5e-002 | 1.329e-002 |
| 42 | 0.6608 | 0.5618 | 3.5e-002 | 3.5e-002 | 1.329e-002 |
| 43 | 0.6982 | 0.5992 | 2.9e-002 | 2.9e-002 | 1.101e-002 |
| 44 | 0.7377 | 0.6387 | 2.9e-002 | 2.9e-002 | 1.101e-002 |
| 45 | 0.7795 | 0.6805 | 3.2e-002 | 3.2e-002 | 1.215e-002 |
| 46 | 0.8238 | 0.7248 | 3.e-002  | 3.e-002  | 1.139e-002 |
| 47 | 0.8708 | 0.7718 | 3.2e-002 | 3.2e-002 | 1.215e-002 |
| 48 | 0.9207 | 0.8217 | 3.e-002  | 3.e-002  | 1.139e-002 |
| 49 | 0.9733 | 0.8743 | 2.7e-002 | 2.7e-002 | 1.025e-002 |
| 50 | 1.029  | 0.93   | 3.3e-002 | 3.3e-002 | 1.253e-002 |
| 51 | 1.088  | 0.989  | 3.e-002  | 3.e-002  | 1.139e-002 |
| 52 | 1.151  | 1.052  | 3.6e-002 | 3.6e-002 | 1.367e-002 |
| 53 | 1.217  | 1.118  | 3.2e-002 | 3.2e-002 | 1.215e-002 |
| 54 | 1.288  | 1.189  | 3.2e-002 | 3.2e-002 | 1.215e-002 |
| 55 | 1.362  | 1.263  | 3.2e-002 | 3.2e-002 | 1.215e-002 |
| 56 | 1.441  | 1.342  | 3.6e-002 | 3.6e-002 | 1.367e-002 |
| 57 | 1.525  | 1.426  | 2.7e-002 | 2.7e-002 | 1.025e-002 |
| 58 | 1.613  | 1.514  | 3.e-002  | 3.e-002  | 1.139e-002 |
| 59 | 1.707  | 1.608  | 3.5e-002 | 3.5e-002 | 1.329e-002 |
| 60 | 1.806  | 1.707  | 3.3e-002 | 3.3e-002 | 1.253e-002 |
| 61 | 1.912  | 1.813  | 3.2e-002 | 3.2e-002 | 1.215e-002 |
| 62 | 2.023  | 1.924  | 2.9e-002 | 2.9e-002 | 1.101e-002 |
| 63 | 2.142  | 2.043  | 3.6e-002 | 3.6e-002 | 1.367e-002 |
| 64 | 2.267  | 2.168  | 3.2e-002 | 3.2e-002 | 1.215e-002 |
| 65 | 2.399  | 2.3    | 2.9e-002 | 2.9e-002 | 1.101e-002 |
| 66 | 2.54   | 2.441  | 2.9e-002 | 2.9e-002 | 1.101e-002 |
| 67 | 2.688  | 2.589  | 2.5e-002 | 2.5e-002 | 9.491e-003 |
| 68 | 2.846  | 2.747  | 2.7e-002 | 2.7e-002 | 1.025e-002 |

---

In-Situ Inc. Hermit 3000  
 Report generated: 3/25/03 14:21:51  
 Report from file: C:\DaveProj\99184\Aquifer Test Data\TMW-3D Test #1.bin  
 DataMgr Version 3.7  
 Serial number: 45468  
 Firmware Version 7.1  
 Unit name: HERMIT 3000

Test name: TMW-3D Test #1  
 Test defined on: 2/13/03 16:46:32  
 Test started on: 2/20/03 15:25:27  
 Test stopped on: 2/20/03 15:35:38  
 Test extracted on: 3/25/03 13:08:29

Data gathered using Logarithmic testing

Maximum time between data points: 0.5000 Minutes.  
 Number of data samples: 90

Channel number [2]

Measurement type: Pressure  
 Channel name: Ch. #2 #6986 10#  
 Linearity: 0.0249  
 Scale: 9.9889  
 Offset: 0.0557  
 Warmup: 50  
 Specific gravity: 1  
 Mode: TOC  
 User-defined reference: 0 Feet H2O  
 Referenced on: test start  
 Pressure head at reference: 19.409 Feet H2O

Channel number [0]

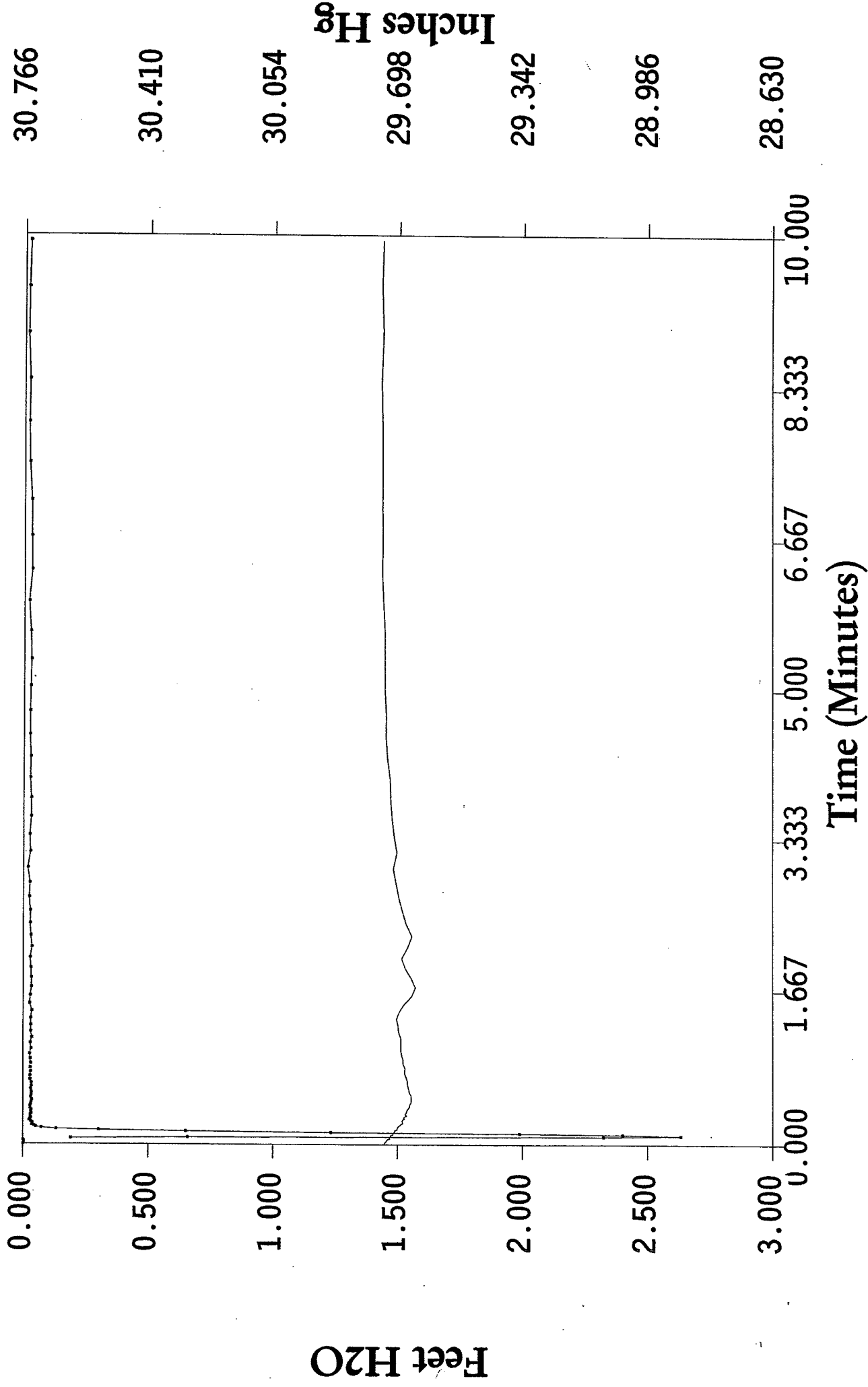
Measurement type: Barometric Pressure  
 Channel name: Barometric  
 Linearity: 0  
 Scale: 0  
 Offset: 0  
 Warmup: 50

| Date    | Time     | ET (min) | Chan[2]<br>Feet H2O | Chan[0]<br>Inches Hg |
|---------|----------|----------|---------------------|----------------------|
| 2/20/03 | 15:25:27 | 0        | 0                   | 29.736               |
| 2/20/03 | 15:25:27 | 0.011    | 0.003               | 29.736               |
| 2/20/03 | 15:25:28 | 0.022    | 0.003               | 29.734               |
| 2/20/03 | 15:25:28 | 0.033    | 0.003               | 29.732               |
| 2/20/03 | 15:25:29 | 0.044    | 0.001               | 29.73                |
| 2/20/03 | 15:25:30 | 0.055    | 0.001               | 29.728               |
| 2/20/03 | 15:25:30 | 0.066    | 0.192               | 29.719               |
| 2/20/03 | 15:25:31 | 0.077    | 0.656               | 29.724               |
| 2/20/03 | 15:25:32 | 0.088    | 2.323               | 29.717               |
| 2/20/03 | 15:25:32 | 0.099    | 2.634               | 29.719               |
| 2/20/03 | 15:25:33 | 0.11     | 2.401               | 29.711               |
| 2/20/03 | 15:25:34 | 0.121    | 1.989               | 29.711               |
| 2/20/03 | 15:25:34 | 0.132    | 1.233               | 29.709               |
| 2/20/03 | 15:25:35 | 0.143    | 0.649               | 29.705               |
| 2/20/03 | 15:25:36 | 0.154    | 0.304               | 29.705               |
| 2/20/03 | 15:25:36 | 0.165    | 0.133               | 29.699               |

| Date    | Time     | ET (min) | Chan[2]<br>Feet H2O | Chan[0]<br>Inches Hg |
|---------|----------|----------|---------------------|----------------------|
| 2/20/03 | 15:25:37 | 0.176    | 0.072               | 29.699               |
| 2/20/03 | 15:25:38 | 0.187    | 0.051               | 29.697               |
| 2/20/03 | 15:25:38 | 0.198    | 0.045               | 29.697               |
| 2/20/03 | 15:25:39 | 0.209    | 0.036               | 29.691               |
| 2/20/03 | 15:25:40 | 0.22     | 0.039               | 29.689               |
| 2/20/03 | 15:25:40 | 0.231    | 0.038               | 29.683               |
| 2/20/03 | 15:25:41 | 0.2427   | 0.032               | 29.685               |
| 2/20/03 | 15:25:42 | 0.2552   | 0.026               | 29.685               |
| 2/20/03 | 15:25:43 | 0.2683   | 0.029               | 29.683               |
| 2/20/03 | 15:25:43 | 0.2823   | 0.032               | 29.679               |
| 2/20/03 | 15:25:44 | 0.2972   | 0.029               | 29.681               |
| 2/20/03 | 15:25:45 | 0.3128   | 0.03                | 29.673               |
| 2/20/03 | 15:25:46 | 0.3295   | 0.035               | 29.677               |
| 2/20/03 | 15:25:47 | 0.3472   | 0.032               | 29.673               |
| 2/20/03 | 15:25:48 | 0.3658   | 0.033               | 29.673               |
| 2/20/03 | 15:25:50 | 0.3857   | 0.029               | 29.669               |
| 2/20/03 | 15:25:51 | 0.4067   | 0.029               | 29.665               |
| 2/20/03 | 15:25:52 | 0.4288   | 0.032               | 29.665               |
| 2/20/03 | 15:25:54 | 0.4523   | 0.033               | 29.66                |
| 2/20/03 | 15:25:55 | 0.4772   | 0.036               | 29.66                |
| 2/20/03 | 15:25:57 | 0.5035   | 0.032               | 29.66                |
| 2/20/03 | 15:25:58 | 0.5315   | 0.035               | 29.66                |
| 2/20/03 | 15:26:00 | 0.5612   | 0.035               | 29.665               |
| 2/20/03 | 15:26:02 | 0.5925   | 0.032               | 29.667               |
| 2/20/03 | 15:26:04 | 0.6257   | 0.035               | 29.669               |
| 2/20/03 | 15:26:06 | 0.6608   | 0.035               | 29.671               |
| 2/20/03 | 15:26:08 | 0.6982   | 0.029               | 29.671               |
| 2/20/03 | 15:26:11 | 0.7377   | 0.029               | 29.675               |
| 2/20/03 | 15:26:13 | 0.7795   | 0.032               | 29.679               |
| 2/20/03 | 15:26:16 | 0.8238   | 0.03                | 29.677               |
| 2/20/03 | 15:26:19 | 0.8708   | 0.032               | 29.683               |
| 2/20/03 | 15:26:22 | 0.9207   | 0.03                | 29.683               |
| 2/20/03 | 15:26:25 | 0.9733   | 0.027               | 29.687               |
| 2/20/03 | 15:26:28 | 1.0292   | 0.033               | 29.689               |
| 2/20/03 | 15:26:32 | 1.0883   | 0.03                | 29.689               |
| 2/20/03 | 15:26:36 | 1.151    | 0.036               | 29.689               |
| 2/20/03 | 15:26:40 | 1.2173   | 0.032               | 29.695               |
| 2/20/03 | 15:26:44 | 1.2877   | 0.032               | 29.697               |
| 2/20/03 | 15:26:48 | 1.3622   | 0.032               | 29.701               |
| 2/20/03 | 15:26:53 | 1.4412   | 0.036               | 29.693               |
| 2/20/03 | 15:26:58 | 1.5248   | 0.027               | 29.679               |
| 2/20/03 | 15:27:03 | 1.6133   | 0.03                | 29.658               |
| 2/20/03 | 15:27:09 | 1.7072   | 0.035               | 29.648               |
| 2/20/03 | 15:27:15 | 1.8065   | 0.033               | 29.66                |
| 2/20/03 | 15:27:21 | 1.9118   | 0.032               | 29.677               |
| 2/20/03 | 15:27:28 | 2.0233   | 0.029               | 29.687               |
| 2/20/03 | 15:27:35 | 2.1415   | 0.036               | 29.671               |
| 2/20/03 | 15:27:43 | 2.2667   | 0.032               | 29.658               |
| 2/20/03 | 15:27:50 | 2.3992   | 0.029               | 29.675               |
| 2/20/03 | 15:27:59 | 2.5397   | 0.029               | 29.685               |
| 2/20/03 | 15:28:08 | 2.6885   | 0.025               | 29.695               |
| 2/20/03 | 15:28:17 | 2.846    | 0.027               | 29.703               |
| 2/20/03 | 15:28:27 | 3.0128   | 0.019               | 29.711               |
| 2/20/03 | 15:28:38 | 3.1897   | 0.029               | 29.701               |
| 2/20/03 | 15:28:49 | 3.377    | 0.026               | 29.709               |

| Date    | Time     | ET (min) | Chan[2]<br>Feet H2O | Chan[0]<br>Inches Hg |
|---------|----------|----------|---------------------|----------------------|
| 2/20/03 | 15:29:01 | 3.5753   | 0.032               | 29.715               |
| 2/20/03 | 15:29:14 | 3.7855   | 0.032               | 29.719               |
| 2/20/03 | 15:29:27 | 4.0082   | 0.027               | 29.722               |
| 2/20/03 | 15:29:41 | 4.244    | 0.029               | 29.73                |
| 2/20/03 | 15:29:56 | 4.4938   | 0.026               | 29.734               |
| 2/20/03 | 15:30:12 | 4.7585   | 0.026               | 29.734               |
| 2/20/03 | 15:30:29 | 5.0388   | 0.027               | 29.738               |
| 2/20/03 | 15:30:47 | 5.3357   | 0.03                | 29.738               |
| 2/20/03 | 15:31:06 | 5.6502   | 0.027               | 29.738               |
| 2/20/03 | 15:31:26 | 5.9833   | 0.02                | 29.742               |
| 2/20/03 | 15:31:47 | 6.3362   | 0.032               | 29.746               |
| 2/20/03 | 15:32:09 | 6.71     | 0.03                | 29.744               |
| 2/20/03 | 15:32:33 | 7.106    | 0.029               | 29.746               |
| 2/20/03 | 15:32:58 | 7.5253   | 0.022               | 29.746               |
| 2/20/03 | 15:33:25 | 7.9697   | 0.019               | 29.746               |
| 2/20/03 | 15:33:53 | 8.4403   | 0.022               | 29.748               |
| 2/20/03 | 15:34:23 | 8.9388   | 0.014               | 29.744               |
| 2/20/03 | 15:34:53 | 9.4388   | 0.016               | 29.748               |
| 2/20/03 | 15:35:23 | 9.9388   | 0.02                | 29.746               |

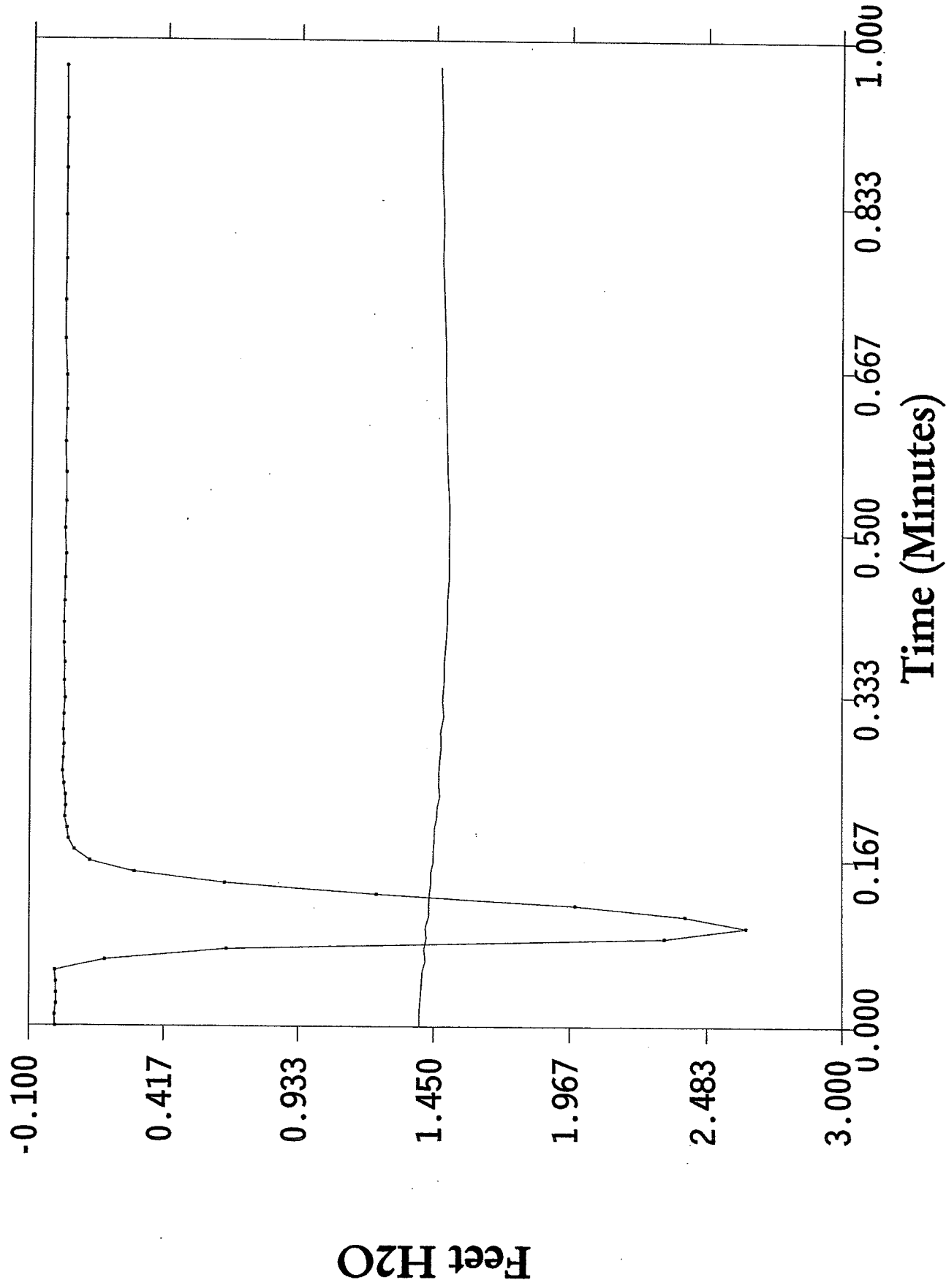
# TMW-3D Test #1



· [2] - Ch. #2 #6986 10#

[0] - Barometric

# TMW-3D Test #1



· [2] - Ch. #2 #6986 10#

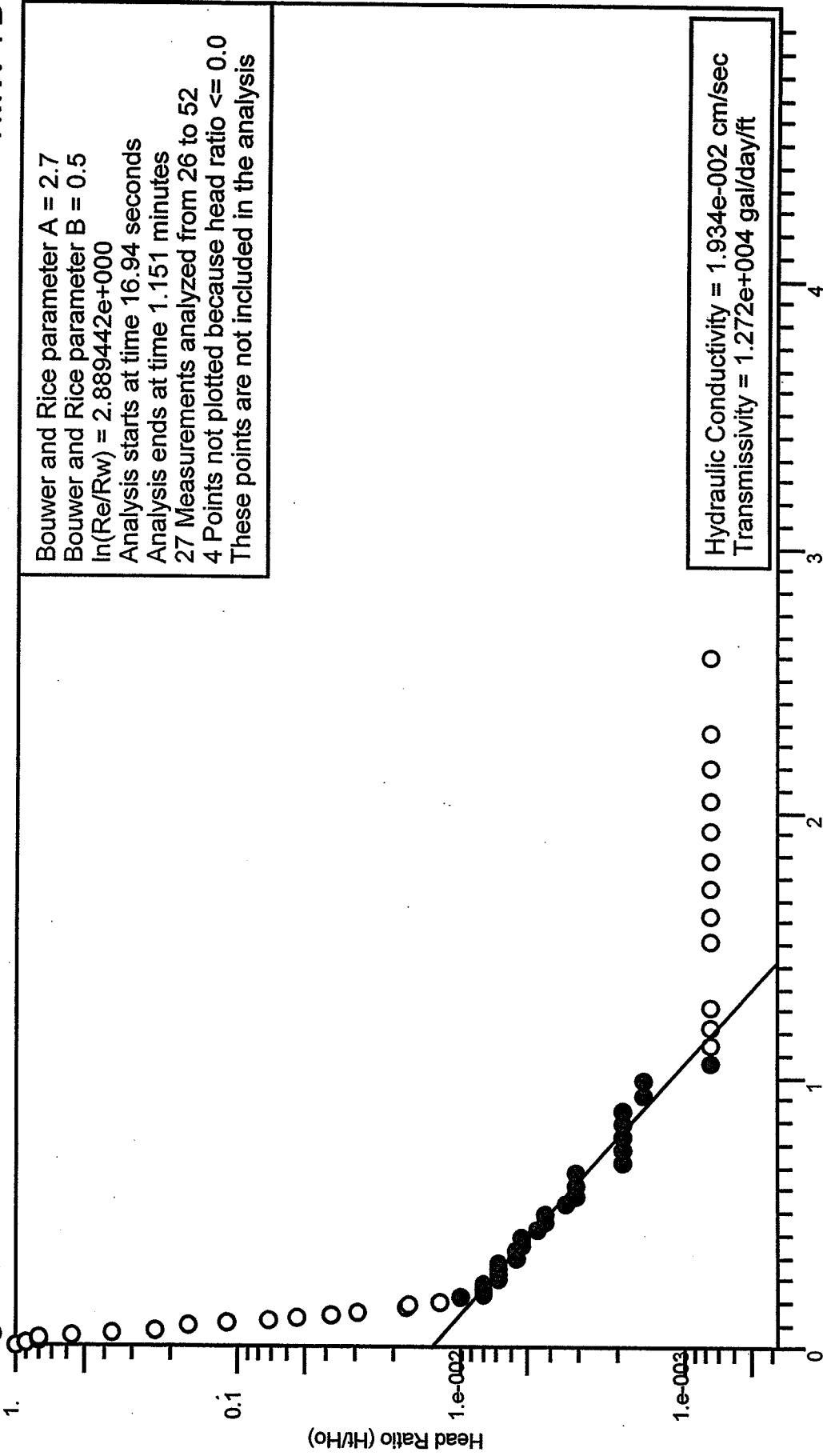
[0] - Barometric

**BASF**

Huntington, WV 2/20/03

# Bouwer and Rice Graph

TMW-7D



Project Number 99184

Adjusted Time (minutes)

Ho is 2.656 feet at 5.94 seconds

Site Name: BASF  
 Location: Huntington, WV  
 Test Date: 2/20/03  
 Project Number: 99184  
 Import File: C:\DaveProj\99184\Aquifer Test Data\TMW-7D.bt

Well Label: TMW-7D  
 Aquifer Thickness: 31. feet  
 Screen Length: 10. feet  
 Casing Radius: 8.33e-002 feet  
 Effective Radius: 0.25 feet  
 Static Water Level: 0. feet  
 Water Table to Screen Bottom: 25. feet  
 Anisotropy Ratio: 1.  
 Time Adjustment: 5.94 Seconds

Test starts with trial 9

There are 68 time and drawdown measurements

Maximum head is 2.656 feet

Minimum head is 0. feet

| Trial | Time<br>(minutes) | Adjusted Time<br>(minutes) | Drawdown<br>(feet) | Head<br>(feet) | Head Ratio |
|-------|-------------------|----------------------------|--------------------|----------------|------------|
| 1     | 0.                | -9.9e-002                  | 8.e-003            | 8.e-003        | 3.012e-003 |
| 2     | 1.1e-002          | -8.8e-002                  | 8.e-003            | 8.e-003        | 3.012e-003 |
| 3     | 2.2e-002          | -7.7e-002                  | 8.e-003            | 8.e-003        | 3.012e-003 |
| 4     | 3.3e-002          | -6.6e-002                  | 9.e-003            | 9.e-003        | 3.389e-003 |
| 5     | 4.4e-002          | -5.5e-002                  | 1.2e-002           | 1.2e-002       | 4.518e-003 |
| 6     | 5.5e-002          | -4.4e-002                  | 9.8e-002           | 9.8e-002       | 3.69e-002  |
| 7     | 6.6e-002          | -3.3e-002                  | 2.e-002            | 2.e-002        | 7.53e-003  |
| 8     | 7.7e-002          | -2.2e-002                  | 3.e-002            | 3.e-002        | 1.13e-002  |
| 9     | 8.8e-002          | -1.1e-002                  | 3.1e-002           | 3.1e-002       | 1.167e-002 |
| 10    | 9.9e-002          | 0.                         | 2.656              | 2.656          | 1.         |
| 11    | 0.11              | 1.1e-002                   | 2.442              | 2.442          | 0.9194     |
| 12    | 0.121             | 2.2e-002                   | 2.115              | 2.115          | 0.7963     |
| 13    | 0.132             | 3.3e-002                   | 2.101              | 2.101          | 0.791      |
| 14    | 0.143             | 4.4e-002                   | 1.483              | 1.483          | 0.5584     |
| 15    | 0.154             | 5.5e-002                   | 0.97               | 0.97           | 0.3652     |
| 16    | 0.165             | 6.6e-002                   | 0.63               | 0.63           | 0.2372     |
| 17    | 0.176             | 7.7e-002                   | 0.439              | 0.439          | 0.1653     |
| 18    | 0.187             | 8.8e-002                   | 0.296              | 0.296          | 0.1114     |
| 19    | 0.198             | 9.9e-002                   | 0.193              | 0.193          | 7.267e-002 |
| 20    | 0.209             | 0.11                       | 0.145              | 0.145          | 5.459e-002 |
| 21    | 0.22              | 0.121                      | 0.101              | 0.101          | 3.803e-002 |
| 22    | 0.231             | 0.132                      | 7.7e-002           | 7.7e-002       | 2.899e-002 |
| 23    | 0.2427            | 0.1437                     | 4.7e-002           | 4.7e-002       | 1.77e-002  |
| 24    | 0.2552            | 0.1562                     | 4.6e-002           | 4.6e-002       | 1.732e-002 |
| 25    | 0.2683            | 0.1693                     | 3.3e-002           | 3.3e-002       | 1.242e-002 |
| 26    | 0.2823            | 0.1833                     | 2.7e-002           | 2.7e-002       | 1.017e-002 |
| 27    | 0.2972            | 0.1982                     | 2.1e-002           | 2.1e-002       | 7.907e-003 |
| 28    | 0.3128            | 0.2138                     | 2.1e-002           | 2.1e-002       | 7.907e-003 |
| 29    | 0.3295            | 0.2305                     | 2.1e-002           | 2.1e-002       | 7.907e-003 |
| 30    | 0.3472            | 0.2482                     | 1.8e-002           | 1.8e-002       | 6.777e-003 |
| 31    | 0.3658            | 0.2668                     | 1.8e-002           | 1.8e-002       | 6.777e-003 |
| 32    | 0.3857            | 0.2867                     | 1.8e-002           | 1.8e-002       | 6.777e-003 |
| 33    | 0.4067            | 0.3077                     | 1.8e-002           | 1.8e-002       | 6.777e-003 |
| 34    | 0.4288            | 0.3298                     | 1.5e-002           | 1.5e-002       | 5.648e-003 |
| 35    | 0.4523            | 0.3533                     | 1.5e-002           | 1.5e-002       | 5.648e-003 |
| 36    | 0.4772            | 0.3782                     | 1.4e-002           | 1.4e-002       | 5.271e-003 |
| 37    | 0.5035            | 0.4045                     | 1.4e-002           | 1.4e-002       | 5.271e-003 |



|    |        |        |          |          |            |
|----|--------|--------|----------|----------|------------|
| 38 | 0.5315 | 0.4325 | 1.2e-002 | 1.2e-002 | 4.518e-003 |
| 39 | 0.5612 | 0.4622 | 1.1e-002 | 1.1e-002 | 4.142e-003 |
| 40 | 0.5925 | 0.4935 | 1.1e-002 | 1.1e-002 | 4.142e-003 |
| 41 | 0.6257 | 0.5267 | 9.e-003  | 9.e-003  | 3.389e-003 |
| 42 | 0.6608 | 0.5618 | 8.e-003  | 8.e-003  | 3.012e-003 |
| 43 | 0.6982 | 0.5992 | 8.e-003  | 8.e-003  | 3.012e-003 |
| 44 | 0.7377 | 0.6387 | 8.e-003  | 8.e-003  | 3.012e-003 |
| 45 | 0.7795 | 0.6805 | 5.e-003  | 5.e-003  | 1.883e-003 |
| 46 | 0.8238 | 0.7248 | 5.e-003  | 5.e-003  | 1.883e-003 |
| 47 | 0.8708 | 0.7718 | 5.e-003  | 5.e-003  | 1.883e-003 |
| 48 | 0.9207 | 0.8217 | 5.e-003  | 5.e-003  | 1.883e-003 |
| 49 | 0.9733 | 0.8743 | 5.e-003  | 5.e-003  | 1.883e-003 |
| 50 | 1.029  | 0.93   | 4.e-003  | 4.e-003  | 1.506e-003 |
| 51 | 1.088  | 0.989  | 4.e-003  | 4.e-003  | 1.506e-003 |
| 52 | 1.151  | 1.052  | 2.e-003  | 2.e-003  | 7.53e-004  |
| 53 | 1.217  | 1.118  | 2.e-003  | 2.e-003  | 7.53e-004  |
| 54 | 1.288  | 1.189  | 2.e-003  | 2.e-003  | 7.53e-004  |
| 55 | 1.362  | 1.263  | 2.e-003  | 2.e-003  | 7.53e-004  |
| 56 | 1.441  | 1.342  | 1.e-003  | 1.e-003  | 3.765e-004 |
| 57 | 1.525  | 1.426  | 1.e-003  | 1.e-003  | 3.765e-004 |
| 58 | 1.613  | 1.514  | 2.e-003  | 2.e-003  | 7.53e-004  |
| 59 | 1.707  | 1.608  | 2.e-003  | 2.e-003  | 7.53e-004  |
| 60 | 1.806  | 1.707  | 2.e-003  | 2.e-003  | 7.53e-004  |
| 61 | 1.912  | 1.813  | 2.e-003  | 2.e-003  | 7.53e-004  |
| 62 | 2.023  | 1.924  | 2.e-003  | 2.e-003  | 7.53e-004  |
| 63 | 2.142  | 2.043  | 2.e-003  | 2.e-003  | 7.53e-004  |
| 64 | 2.267  | 2.168  | 2.e-003  | 2.e-003  | 7.53e-004  |
| 65 | 2.399  | 2.3    | 2.e-003  | 2.e-003  | 7.53e-004  |
| 66 | 2.54   | 2.441  | 1.e-003  | 1.e-003  | 3.765e-004 |
| 67 | 2.688  | 2.589  | 2.e-003  | 2.e-003  | 7.53e-004  |
| 68 | 2.846  | 2.747  | 1.e-003  | 1.e-003  | 3.765e-004 |

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In-Situ Inc. Hermit 3000  
 Report generated: 3/25/03 14:38:20  
 Report from file: C:\DaveProj\99184\Aquifer Test Data\TMW-7D Test #3.bin  
 DataMgr Version 3.7  
 Serial number: 45468  
 Firmware Version 7.1  
 Unit name: HERMIT 3000

Test name: TMW-7D Test #3  
 Test defined on: 2/13/03 17:03:03  
 Test started on: 2/20/03 17:51:01  
 Test stopped on: 2/20/03 18:00:31  
 Test extracted on: 3/25/03 13:11:11

Data gathered using Logarithmic testing

Maximum time between data points: 0.5000 Minutes.  
 Number of data samples: 89

Channel number [2]

Measurement type: Pressure  
 Channel name: Ch. #2 #6986 10#  
 Linearity: 0.0249  
 Scale: 9.9889  
 Offset: 0.0557  
 Warmup: 50  
 Specific gravity: 1  
 Mode: TOC  
 User-defined reference: 0 Feet H2O  
 Referenced on: test start  
 Pressure head at reference: 21.378 Feet H2O

Channel number [0]

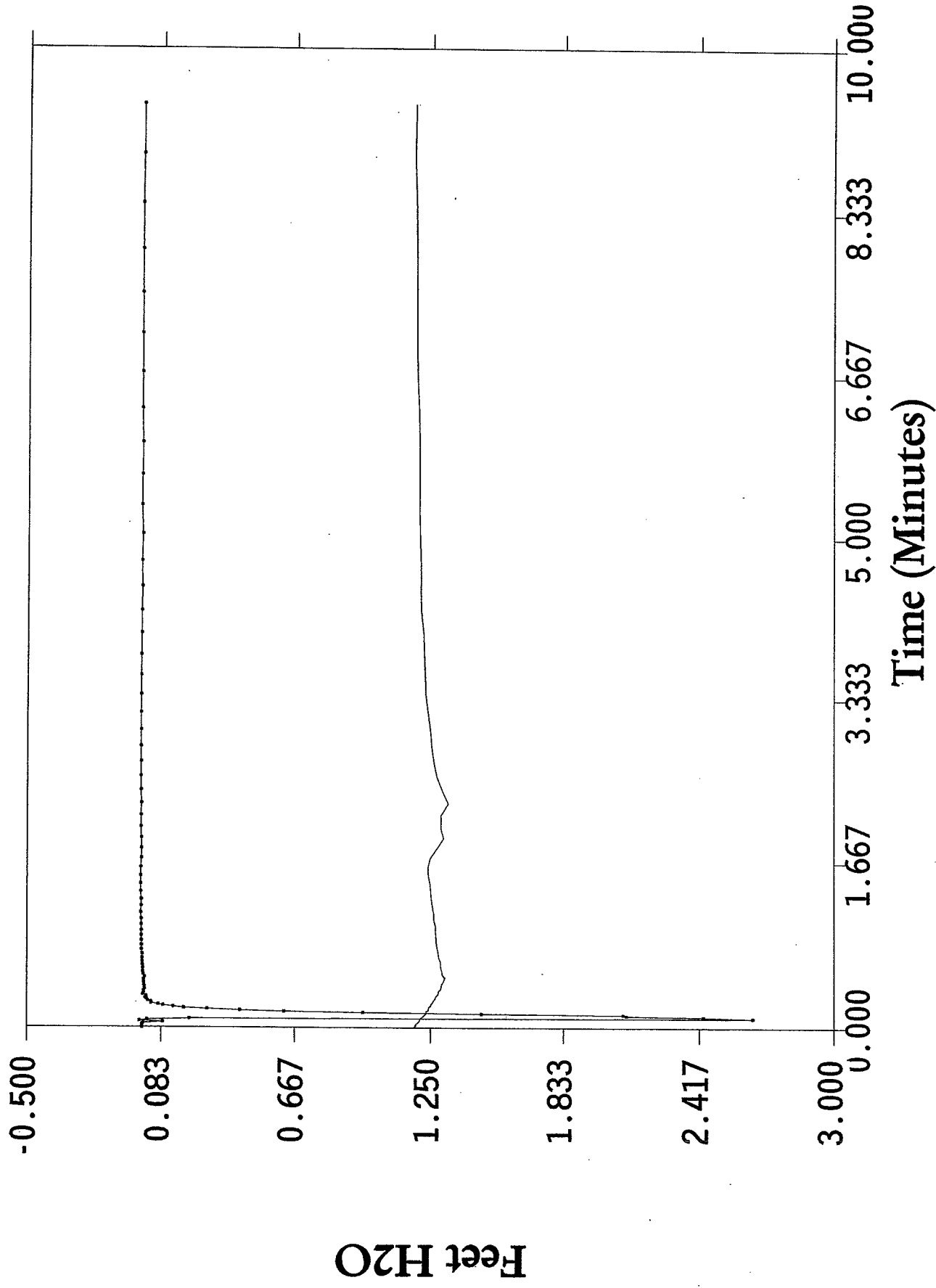
Measurement type: Barometric Pressure  
 Channel name: Barometric  
 Linearity: 0  
 Scale: 0  
 Offset: 0  
 Warmup: 50

| Date    | Time     | ET (min) | Chan[2]<br>Feet H2O | Chan[0]<br>Inches Hg |
|---------|----------|----------|---------------------|----------------------|
| 2/20/03 | 17:51:01 | 0        | 0                   | 29.722               |
| 2/20/03 | 17:51:01 | 0.011    | 0                   | 29.719               |
| 2/20/03 | 17:51:02 | 0.022    | 0                   | 29.715               |
| 2/20/03 | 17:51:02 | 0.033    | 0.001               | 29.717               |
| 2/20/03 | 17:51:03 | 0.044    | 0.004               | 29.713               |
| 2/20/03 | 17:51:04 | 0.055    | 0.09                | 29.709               |
| 2/20/03 | 17:51:04 | 0.066    | 0.012               | 29.707               |
| 2/20/03 | 17:51:05 | 0.077    | 0.022               | 29.705               |
| 2/20/03 | 17:51:06 | 0.088    | 0.21                | 29.705               |
| 2/20/03 | 17:51:06 | 0.099    | 2.648               | 29.703               |
| 2/20/03 | 17:51:07 | 0.11     | 2.434               | 29.697               |
| 2/20/03 | 17:51:08 | 0.121    | 2.107               | 29.695               |
| 2/20/03 | 17:51:08 | 0.132    | 2.093               | 29.693               |
| 2/20/03 | 17:51:09 | 0.143    | 1.475               | 29.689               |
| 2/20/03 | 17:51:10 | 0.154    | 0.962               | 29.689               |
| 2/20/03 | 17:51:10 | 0.165    | 0.622               | 29.689               |

| Date    | Time     | ET (min) | Chan[2]<br>Feet H2O | Chan[0]<br>Inches Hg |
|---------|----------|----------|---------------------|----------------------|
| 2/20/03 | 17:51:11 | 0.176    | 0.431               | 29.683               |
| 2/20/03 | 17:51:12 | 0.187    | 0.288               | 29.683               |
| 2/20/03 | 17:51:12 | 0.198    | 0.185               | 29.683               |
| 2/20/03 | 17:51:13 | 0.209    | 0.137               | 29.681               |
| 2/20/03 | 17:51:14 | 0.22     | 0.093               | 29.677               |
| 2/20/03 | 17:51:14 | 0.231    | 0.069               | 29.677               |
| 2/20/03 | 17:51:15 | 0.2427   | 0.039               | 29.675               |
| 2/20/03 | 17:51:16 | 0.2552   | 0.038               | 29.671               |
| 2/20/03 | 17:51:17 | 0.2683   | 0.025               | 29.671               |
| 2/20/03 | 17:51:17 | 0.2823   | 0.019               | 29.667               |
| 2/20/03 | 17:51:18 | 0.2972   | 0.013               | 29.665               |
| 2/20/03 | 17:51:19 | 0.3128   | 0.017               | 29.662               |
| 2/20/03 | 17:51:20 | 0.3295   | 0.003               | 29.658               |
| 2/20/03 | 17:51:21 | 0.3472   | 0.006               | 29.656               |
| 2/20/03 | 17:51:22 | 0.3658   | 0.006               | 29.656               |
| 2/20/03 | 17:51:24 | 0.3857   | 0.01                | 29.65                |
| 2/20/03 | 17:51:25 | 0.4067   | 0.01                | 29.648               |
| 2/20/03 | 17:51:26 | 0.4288   | 0.007               | 29.648               |
| 2/20/03 | 17:51:28 | 0.4523   | 0.007               | 29.644               |
| 2/20/03 | 17:51:29 | 0.4772   | 0.006               | 29.64                |
| 2/20/03 | 17:51:31 | 0.5035   | 0.01                | 29.638               |
| 2/20/03 | 17:51:32 | 0.5315   | 0.004               | 29.646               |
| 2/20/03 | 17:51:34 | 0.5612   | 0.003               | 29.646               |
| 2/20/03 | 17:51:36 | 0.5925   | 0.003               | 29.648               |
| 2/20/03 | 17:51:38 | 0.6257   | 0.001               | 29.65                |
| 2/20/03 | 17:51:40 | 0.6608   | 0                   | 29.65                |
| 2/20/03 | 17:51:42 | 0.6982   | 0                   | 29.654               |
| 2/20/03 | 17:51:45 | 0.7377   | 0                   | 29.656               |
| 2/20/03 | 17:51:47 | 0.7795   | -0.003              | 29.658               |
| 2/20/03 | 17:51:50 | 0.8238   | -0.003              | 29.66                |
| 2/20/03 | 17:51:53 | 0.8708   | -0.003              | 29.662               |
| 2/20/03 | 17:51:56 | 0.9207   | -0.004              | 29.662               |
| 2/20/03 | 17:51:59 | 0.9733   | -0.003              | 29.665               |
| 2/20/03 | 17:52:02 | 1.0292   | -0.004              | 29.665               |
| 2/20/03 | 17:52:06 | 1.0883   | -0.004              | 29.669               |
| 2/20/03 | 17:52:10 | 1.151    | -0.006              | 29.669               |
| 2/20/03 | 17:52:14 | 1.2173   | -0.004              | 29.673               |
| 2/20/03 | 17:52:18 | 1.2877   | -0.004              | 29.675               |
| 2/20/03 | 17:52:22 | 1.3622   | -0.006              | 29.677               |
| 2/20/03 | 17:52:27 | 1.4412   | -0.007              | 29.679               |
| 2/20/03 | 17:52:32 | 1.5248   | -0.007              | 29.683               |
| 2/20/03 | 17:52:37 | 1.6133   | -0.006              | 29.685               |
| 2/20/03 | 17:52:43 | 1.7072   | -0.004              | 29.679               |
| 2/20/03 | 17:52:49 | 1.8065   | -0.004              | 29.66                |
| 2/20/03 | 17:52:55 | 1.9118   | -0.004              | 29.642               |
| 2/20/03 | 17:53:02 | 2.0233   | -0.006              | 29.65                |
| 2/20/03 | 17:53:09 | 2.1415   | -0.006              | 29.65                |
| 2/20/03 | 17:53:17 | 2.2667   | -0.004              | 29.63                |
| 2/20/03 | 17:53:24 | 2.3992   | -0.006              | 29.646               |
| 2/20/03 | 17:53:33 | 2.5397   | -0.007              | 29.66                |
| 2/20/03 | 17:53:42 | 2.6885   | -0.006              | 29.669               |
| 2/20/03 | 17:53:51 | 2.846    | -0.007              | 29.675               |
| 2/20/03 | 17:54:01 | 3.0128   | -0.006              | 29.679               |
| 2/20/03 | 17:54:12 | 3.1897   | -0.007              | 29.685               |
| 2/20/03 | 17:54:23 | 3.377    | -0.007              | 29.691               |

| Date    | Time     | ET (min) | Chan[2]<br>Feet H2O | Chan[0]<br>Inches Hg |
|---------|----------|----------|---------------------|----------------------|
| 2/20/03 | 17:54:35 | 3.5753   | -0.007              | 29.693               |
| 2/20/03 | 17:54:48 | 3.7855   | -0.007              | 29.695               |
| 2/20/03 | 17:55:01 | 4.0082   | -0.006              | 29.697               |
| 2/20/03 | 17:55:15 | 4.244    | -0.006              | 29.703               |
| 2/20/03 | 17:55:30 | 4.4938   | -0.004              | 29.705               |
| 2/20/03 | 17:55:46 | 4.7585   | -0.006              | 29.705               |
| 2/20/03 | 17:56:03 | 5.0388   | -0.003              | 29.707               |
| 2/20/03 | 17:56:21 | 5.3357   | -0.007              | 29.709               |
| 2/20/03 | 17:56:40 | 5.6502   | -0.006              | 29.709               |
| 2/20/03 | 17:57:00 | 5.9833   | -0.004              | 29.709               |
| 2/20/03 | 17:57:21 | 6.3362   | -0.007              | 29.711               |
| 2/20/03 | 17:57:43 | 6.71     | -0.006              | 29.715               |
| 2/20/03 | 17:58:07 | 7.106    | -0.007              | 29.717               |
| 2/20/03 | 17:58:32 | 7.5253   | -0.007              | 29.717               |
| 2/20/03 | 17:58:59 | 7.9697   | -0.006              | 29.717               |
| 2/20/03 | 17:59:27 | 8.4403   | -0.006              | 29.719               |
| 2/20/03 | 17:59:57 | 8.9388   | -0.004              | 29.724               |
| 2/20/03 | 18:00:27 | 9.4388   | -0.004              | 29.722               |

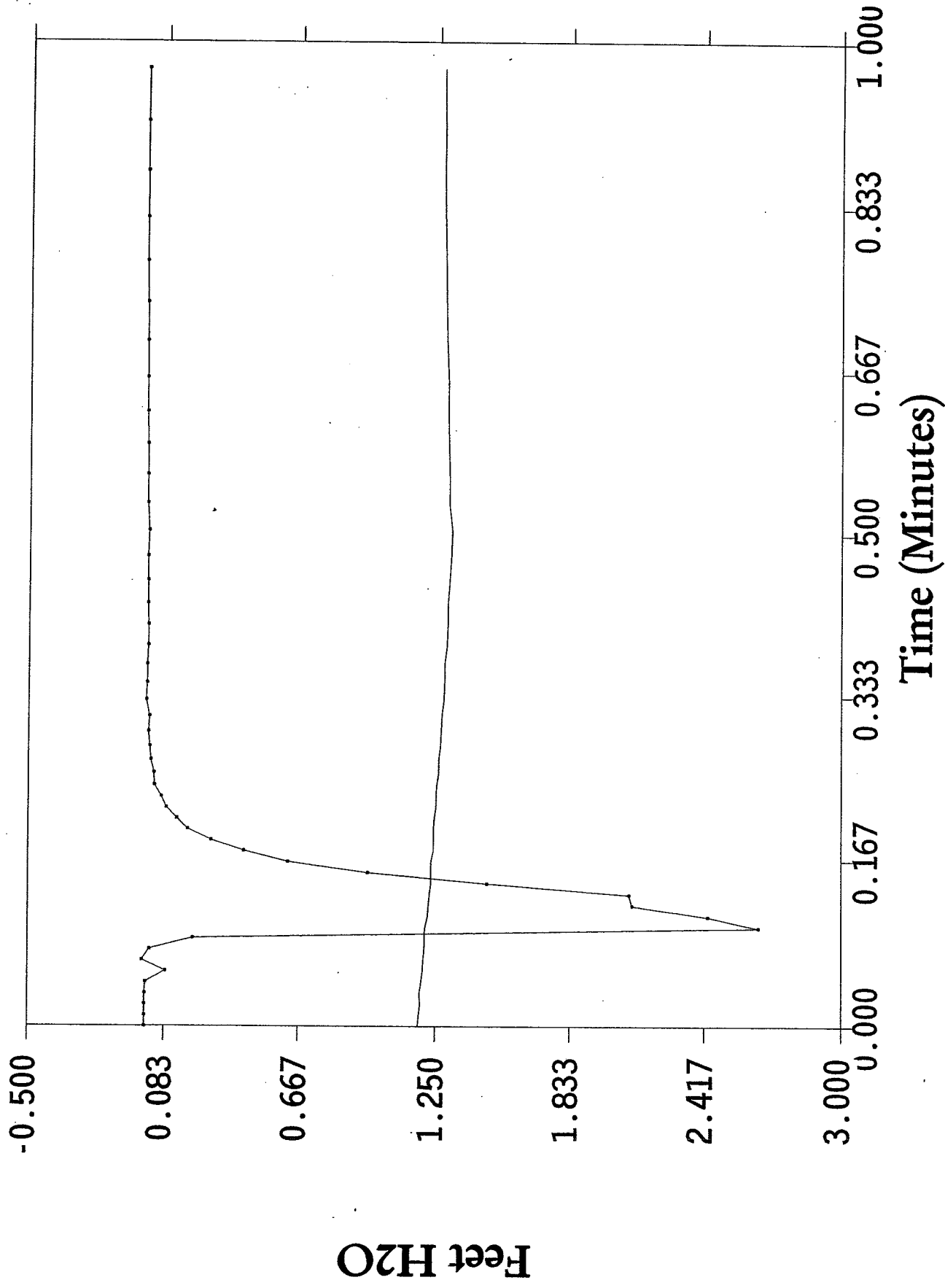
# TMW-7D Test #3



· [2] - Ch. #2 #6986 10#

[0] - Barometric

# TMW-7D Test #3



[2] - Ch. #2 #6986 10#

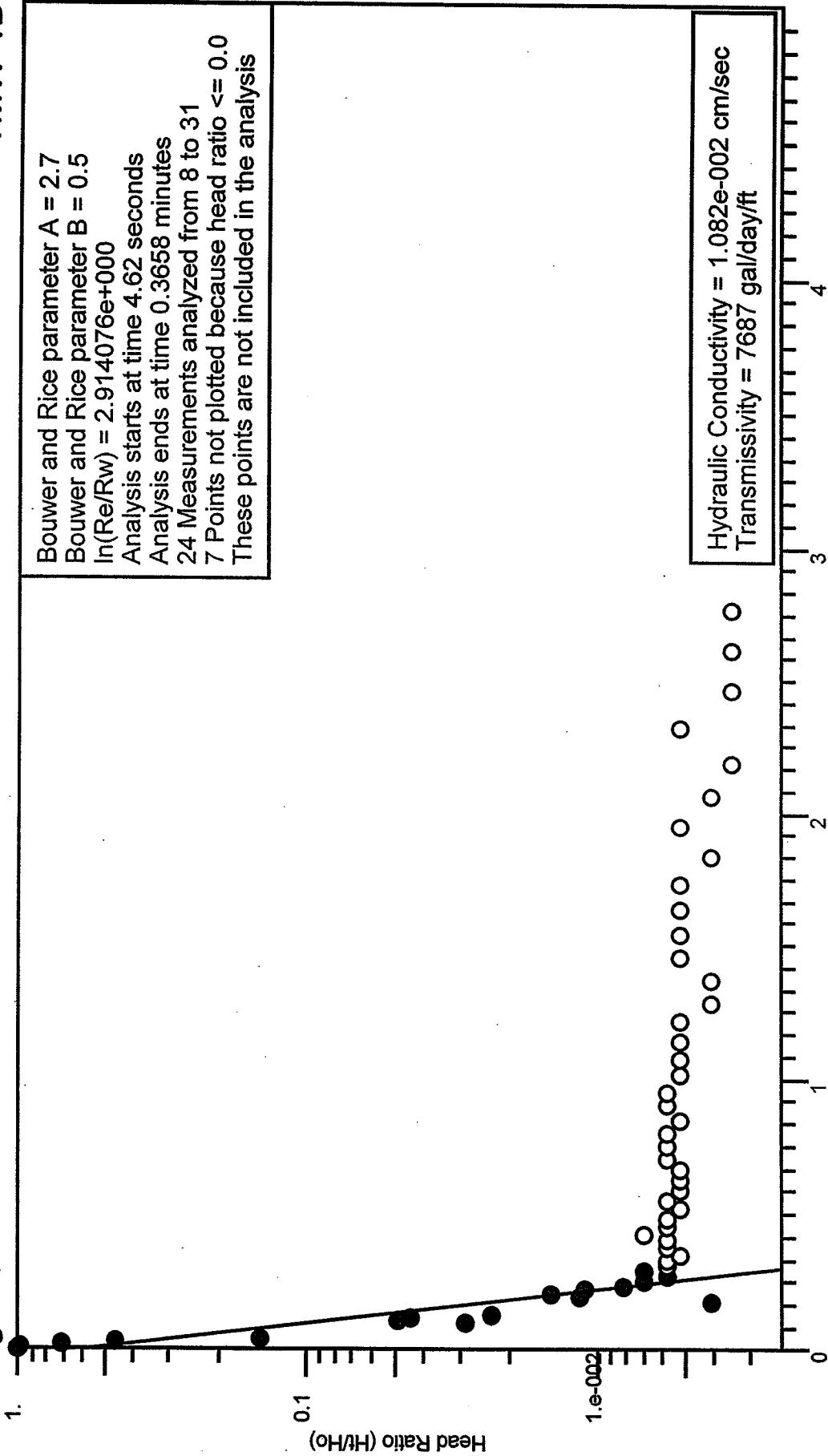
[0] - Barometric

**BASF**

Huntington, WV 2/20/03

# Bouwer and Rice Graph

TMW-1D



Project Number 99184

Ho is 1.723 feet at 4.62 seconds

Site Name: BASF  
 Location: Huntington, WV  
 Test Date: 2/20/03  
 Project Number: 99184  
 Import File: C:\DaveProj\99184\Aquifer Test Data\TMW-1D.txt

Well Label: TMW-1D  
 Aquifer Thickness: 33.5 feet  
 Screen Length: 10. feet  
 Casing Radius: 8.333e-002 feet  
 Effective Radius: 0.25 feet  
 Static Water Level: 0. feet  
 Water Table to Screen Bottom: 27. feet  
 Anisotropy Ratio: 1.  
 Time Adjustment: 4.62 Seconds

Test starts with trial 7

There are 68 time and drawdown measurements

Maximum head is 1.723 feet

Minimum head is -0.228 feet

| Trial | Time<br>(minutes) | Adjusted Time<br>(minutes) | Drawdown<br>(feet) | Head<br>(feet) | Head Ratio  |
|-------|-------------------|----------------------------|--------------------|----------------|-------------|
| 1     | 0.                | -7.7e-002                  | 0.                 | 0.             | 0.          |
| 2     | 1.1e-002          | -6.6e-002                  | 1.e-003            | 1.e-003        | 5.804e-004  |
| 3     | 2.2e-002          | -5.5e-002                  | 1.e-003            | 1.e-003        | 5.804e-004  |
| 4     | 3.3e-002          | -4.4e-002                  | 0.                 | 0.             | 0.          |
| 5     | 4.4e-002          | -3.3e-002                  | 0.                 | 0.             | 0.          |
| 6     | 5.5e-002          | -2.2e-002                  | 0.                 | 0.             | 0.          |
| 7     | 6.6e-002          | -1.1e-002                  | 5.6e-002           | 5.6e-002       | 3.25e-002   |
| 8     | 7.7e-002          | 0.                         | 1.723              | 1.723          | 1.          |
| 9     | 8.8e-002          | 1.1e-002                   | 1.7                | 1.7            | 0.9867      |
| 10    | 9.9e-002          | 2.2e-002                   | 1.22               | 1.22           | 0.7081      |
| 11    | 0.11              | 3.3e-002                   | 0.797              | 0.797          | 0.4626      |
| 12    | 0.121             | 4.4e-002                   | 0.249              | 0.249          | 0.1445      |
| 13    | 0.132             | 5.5e-002                   | -0.119             | -0.119         | -6.907e-002 |
| 14    | 0.143             | 6.6e-002                   | -0.228             | -0.228         | -0.1323     |
| 15    | 0.154             | 7.7e-002                   | -0.178             | -0.178         | -0.1033     |
| 16    | 0.165             | 8.8e-002                   | -5.5e-002          | -5.5e-002      | -3.192e-002 |
| 17    | 0.176             | 9.9e-002                   | 4.9e-002           | 4.9e-002       | 2.844e-002  |
| 18    | 0.187             | 0.11                       | 8.4e-002           | 8.4e-002       | 4.875e-002  |
| 19    | 0.198             | 0.121                      | 7.5e-002           | 7.5e-002       | 4.353e-002  |
| 20    | 0.209             | 0.132                      | 4.e-002            | 4.e-002        | 2.322e-002  |
| 21    | 0.22              | 0.143                      | 4.e-003            | 4.e-003        | 2.322e-003  |
| 22    | 0.231             | 0.154                      | -1.e-002           | -1.e-002       | -5.804e-003 |
| 23    | 0.2427            | 0.1657                     | -6.e-003           | -6.e-003       | -3.482e-003 |
| 24    | 0.2552            | 0.1782                     | 7.e-003            | 7.e-003        | 4.063e-003  |
| 25    | 0.2683            | 0.1913                     | 2.e-002            | 2.e-002        | 1.161e-002  |
| 26    | 0.2823            | 0.2053                     | 2.5e-002           | 2.5e-002       | 1.451e-002  |
| 27    | 0.2972            | 0.2202                     | 1.9e-002           | 1.9e-002       | 1.103e-002  |
| 28    | 0.3128            | 0.2358                     | 1.4e-002           | 1.4e-002       | 8.125e-003  |
| 29    | 0.3295            | 0.2525                     | 1.2e-002           | 1.2e-002       | 6.965e-003  |
| 30    | 0.3472            | 0.2702                     | 1.e-002            | 1.e-002        | 5.804e-003  |
| 31    | 0.3658            | 0.2888                     | 1.2e-002           | 1.2e-002       | 6.965e-003  |
| 32    | 0.3857            | 0.3087                     | 1.e-002            | 1.e-002        | 5.804e-003  |
| 33    | 0.4067            | 0.3297                     | 1.e-002            | 1.e-002        | 5.804e-003  |
| 34    | 0.4288            | 0.3518                     | 9.e-003            | 9.e-003        | 5.223e-003  |
| 35    | 0.4523            | 0.3753                     | 1.e-002            | 1.e-002        | 5.804e-003  |
| 36    | 0.4772            | 0.4002                     | 1.e-002            | 1.e-002        | 5.804e-003  |
| 37    | 0.5035            | 0.4265                     | 1.2e-002           | 1.2e-002       | 6.965e-003  |



|    |        |        |         |         |            |
|----|--------|--------|---------|---------|------------|
| 38 | 0.5315 | 0.4545 | 1.e-002 | 1.e-002 | 5.804e-003 |
| 39 | 0.5612 | 0.4842 | 1.e-002 | 1.e-002 | 5.804e-003 |
| 40 | 0.5925 | 0.5155 | 9.e-003 | 9.e-003 | 5.223e-003 |
| 41 | 0.6257 | 0.5487 | 1.e-002 | 1.e-002 | 5.804e-003 |
| 42 | 0.6608 | 0.5838 | 9.e-003 | 9.e-003 | 5.223e-003 |
| 43 | 0.6982 | 0.6212 | 9.e-003 | 9.e-003 | 5.223e-003 |
| 44 | 0.7377 | 0.6607 | 9.e-003 | 9.e-003 | 5.223e-003 |
| 45 | 0.7795 | 0.7025 | 1.e-002 | 1.e-002 | 5.804e-003 |
| 46 | 0.8238 | 0.7468 | 1.e-002 | 1.e-002 | 5.804e-003 |
| 47 | 0.8708 | 0.7938 | 1.e-002 | 1.e-002 | 5.804e-003 |
| 48 | 0.9207 | 0.8437 | 9.e-003 | 9.e-003 | 5.223e-003 |
| 49 | 0.9733 | 0.8963 | 1.e-002 | 1.e-002 | 5.804e-003 |
| 50 | 1.029  | 0.952  | 1.e-002 | 1.e-002 | 5.804e-003 |
| 51 | 1.088  | 1.011  | 9.e-003 | 9.e-003 | 5.223e-003 |
| 52 | 1.151  | 1.074  | 9.e-003 | 9.e-003 | 5.223e-003 |
| 53 | 1.217  | 1.14   | 9.e-003 | 9.e-003 | 5.223e-003 |
| 54 | 1.288  | 1.211  | 9.e-003 | 9.e-003 | 5.223e-003 |
| 55 | 1.362  | 1.285  | 7.e-003 | 7.e-003 | 4.063e-003 |
| 56 | 1.441  | 1.364  | 7.e-003 | 7.e-003 | 4.063e-003 |
| 57 | 1.525  | 1.448  | 9.e-003 | 9.e-003 | 5.223e-003 |
| 58 | 1.613  | 1.536  | 9.e-003 | 9.e-003 | 5.223e-003 |
| 59 | 1.707  | 1.63   | 9.e-003 | 9.e-003 | 5.223e-003 |
| 60 | 1.806  | 1.729  | 9.e-003 | 9.e-003 | 5.223e-003 |
| 61 | 1.912  | 1.835  | 7.e-003 | 7.e-003 | 4.063e-003 |
| 62 | 2.023  | 1.946  | 9.e-003 | 9.e-003 | 5.223e-003 |
| 63 | 2.142  | 2.065  | 7.e-003 | 7.e-003 | 4.063e-003 |
| 64 | 2.267  | 2.19   | 6.e-003 | 6.e-003 | 3.482e-003 |
| 65 | 2.399  | 2.322  | 9.e-003 | 9.e-003 | 5.223e-003 |
| 66 | 2.54   | 2.463  | 6.e-003 | 6.e-003 | 3.482e-003 |
| 67 | 2.688  | 2.611  | 6.e-003 | 6.e-003 | 3.482e-003 |
| 68 | 2.846  | 2.769  | 6.e-003 | 6.e-003 | 3.482e-003 |

---

In-Situ Inc. Hermit 3000  
 Report generated: 3/26/03 12:23:07  
 Report from file: C:\DaveProj\99184\Aquifer Test Data\TMW-1D Test #3.bin  
 DataMgr Version 3.7  
 Serial number: 45468  
 Firmware Version 7.1  
 Unit name: HERMIT 3000

Test name: TMW-1D Test #3  
 Test defined on: 2/13/03 16:45:20  
 Test started on: 2/20/03 12:00:32  
 Test stopped on: 2/20/03 12:09:43  
 Test extracted on: 3/25/03 13:07:08

Data gathered using Logarithmic testing

Maximum time between data points: 0.5000 Minutes.  
 Number of data samples: 88

Channel number [2]

Measurement type: Pressure  
 Channel name: Ch. #2 #6986 10#  
 Linearity: 0.0249  
 Scale: 9.9889  
 Offset: 0.0557  
 Warmup: 50  
 Specific gravity: 1  
 Mode: TOC  
 User-defined reference: 0 Feet H2O  
 Referenced on: test start  
 Pressure head at reference: 18.913 Feet H2O

Channel number [0]

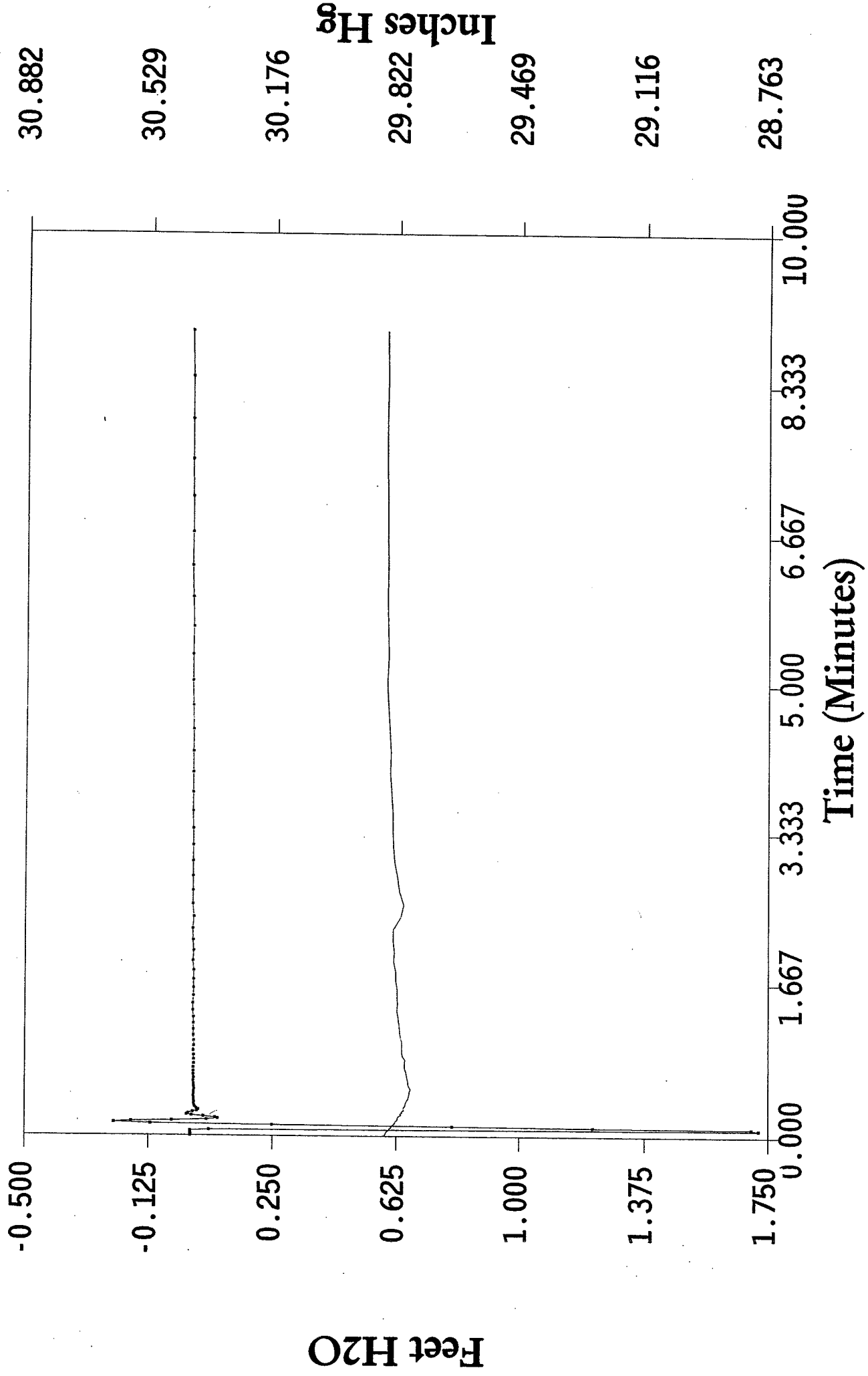
Measurement type: Barometric Pressure  
 Channel name: Barometric  
 Linearity: 0  
 Scale: 0  
 Offset: 0  
 Warmup: 50

| Date    | Time     | ET (min) | Chan[2]<br>Feet H2O | Chan[0]<br>Inches Hg |
|---------|----------|----------|---------------------|----------------------|
| 2/20/03 | 12:00:32 | 0        | 0                   | 29.864               |
| 2/20/03 | 12:00:32 | 0.011    | 0.001               | 29.856               |
| 2/20/03 | 12:00:33 | 0.022    | 0.001               | 29.854               |
| 2/20/03 | 12:00:33 | 0.033    | 0                   | 29.854               |
| 2/20/03 | 12:00:34 | 0.044    | 0                   | 29.852               |
| 2/20/03 | 12:00:35 | 0.055    | 0                   | 29.85                |
| 2/20/03 | 12:00:35 | 0.066    | 0.056               | 29.844               |
| 2/20/03 | 12:00:36 | 0.077    | 1.723               | 29.844               |
| 2/20/03 | 12:00:37 | 0.088    | 1.7                 | 29.84                |
| 2/20/03 | 12:00:37 | 0.099    | 1.22                | 29.838               |
| 2/20/03 | 12:00:38 | 0.11     | 0.797               | 29.836               |
| 2/20/03 | 12:00:39 | 0.121    | 0.249               | 29.834               |
| 2/20/03 | 12:00:39 | 0.132    | -0.119              | 29.829               |
| 2/20/03 | 12:00:40 | 0.143    | -0.228              | 29.827               |
| 2/20/03 | 12:00:41 | 0.154    | -0.178              | 29.825               |
| 2/20/03 | 12:00:41 | 0.165    | -0.055              | 29.825               |

| Date    | Time     | ET (min) | Chan[2]<br>Feet H2O | Chan[0]<br>Inches Hg |
|---------|----------|----------|---------------------|----------------------|
| 2/20/03 | 12:00:42 | 0.176    | 0.049               | 29.819               |
| 2/20/03 | 12:00:43 | 0.187    | 0.084               | 29.819               |
| 2/20/03 | 12:00:43 | 0.198    | 0.075               | 29.819               |
| 2/20/03 | 12:00:44 | 0.209    | 0.04                | 29.817               |
| 2/20/03 | 12:00:45 | 0.22     | 0.004               | 29.813               |
| 2/20/03 | 12:00:45 | 0.231    | -0.01               | 29.809               |
| 2/20/03 | 12:00:46 | 0.2427   | -0.006              | 29.811               |
| 2/20/03 | 12:00:47 | 0.2552   | 0.007               | 29.805               |
| 2/20/03 | 12:00:48 | 0.2683   | 0.02                | 29.807               |
| 2/20/03 | 12:00:48 | 0.2823   | 0.025               | 29.801               |
| 2/20/03 | 12:00:49 | 0.2972   | 0.019               | 29.803               |
| 2/20/03 | 12:00:50 | 0.3128   | 0.014               | 29.801               |
| 2/20/03 | 12:00:51 | 0.3295   | 0.012               | 29.797               |
| 2/20/03 | 12:00:52 | 0.3472   | 0.01                | 29.797               |
| 2/20/03 | 12:00:53 | 0.3658   | 0.012               | 29.795               |
| 2/20/03 | 12:00:55 | 0.3857   | 0.01                | 29.793               |
| 2/20/03 | 12:00:56 | 0.4067   | 0.01                | 29.789               |
| 2/20/03 | 12:00:57 | 0.4288   | 0.009               | 29.787               |
| 2/20/03 | 12:00:59 | 0.4523   | 0.01                | 29.785               |
| 2/20/03 | 12:01:00 | 0.4772   | 0.01                | 29.785               |
| 2/20/03 | 12:01:02 | 0.5035   | 0.012               | 29.781               |
| 2/20/03 | 12:01:03 | 0.5315   | 0.01                | 29.785               |
| 2/20/03 | 12:01:05 | 0.5612   | 0.01                | 29.789               |
| 2/20/03 | 12:01:07 | 0.5925   | 0.009               | 29.789               |
| 2/20/03 | 12:01:09 | 0.6257   | 0.01                | 29.791               |
| 2/20/03 | 12:01:11 | 0.6608   | 0.009               | 29.793               |
| 2/20/03 | 12:01:13 | 0.6982   | 0.009               | 29.795               |
| 2/20/03 | 12:01:16 | 0.7377   | 0.009               | 29.799               |
| 2/20/03 | 12:01:18 | 0.7795   | 0.01                | 29.799               |
| 2/20/03 | 12:01:21 | 0.8238   | 0.01                | 29.797               |
| 2/20/03 | 12:01:24 | 0.8708   | 0.01                | 29.805               |
| 2/20/03 | 12:01:27 | 0.9207   | 0.009               | 29.807               |
| 2/20/03 | 12:01:30 | 0.9733   | 0.01                | 29.807               |
| 2/20/03 | 12:01:33 | 1.0292   | 0.01                | 29.807               |
| 2/20/03 | 12:01:37 | 1.0883   | 0.009               | 29.811               |
| 2/20/03 | 12:01:41 | 1.151    | 0.009               | 29.813               |
| 2/20/03 | 12:01:45 | 1.2173   | 0.009               | 29.815               |
| 2/20/03 | 12:01:49 | 1.2877   | 0.009               | 29.817               |
| 2/20/03 | 12:01:53 | 1.3622   | 0.007               | 29.821               |
| 2/20/03 | 12:01:58 | 1.4412   | 0.007               | 29.819               |
| 2/20/03 | 12:02:03 | 1.5248   | 0.009               | 29.821               |
| 2/20/03 | 12:02:08 | 1.6133   | 0.009               | 29.821               |
| 2/20/03 | 12:02:14 | 1.7072   | 0.009               | 29.825               |
| 2/20/03 | 12:02:20 | 1.8065   | 0.009               | 29.825               |
| 2/20/03 | 12:02:26 | 1.9118   | 0.007               | 29.831               |
| 2/20/03 | 12:02:33 | 2.0233   | 0.009               | 29.829               |
| 2/20/03 | 12:02:40 | 2.1415   | 0.007               | 29.834               |
| 2/20/03 | 12:02:48 | 2.2667   | 0.006               | 29.834               |
| 2/20/03 | 12:02:55 | 2.3992   | 0.009               | 29.811               |
| 2/20/03 | 12:03:04 | 2.5397   | 0.006               | 29.803               |
| 2/20/03 | 12:03:13 | 2.6885   | 0.006               | 29.815               |
| 2/20/03 | 12:03:22 | 2.846    | 0.006               | 29.821               |
| 2/20/03 | 12:03:32 | 3.0128   | 0.006               | 29.829               |
| 2/20/03 | 12:03:43 | 3.1897   | 0.006               | 29.834               |
| 2/20/03 | 12:03:54 | 3.377    | 0.006               | 29.836               |

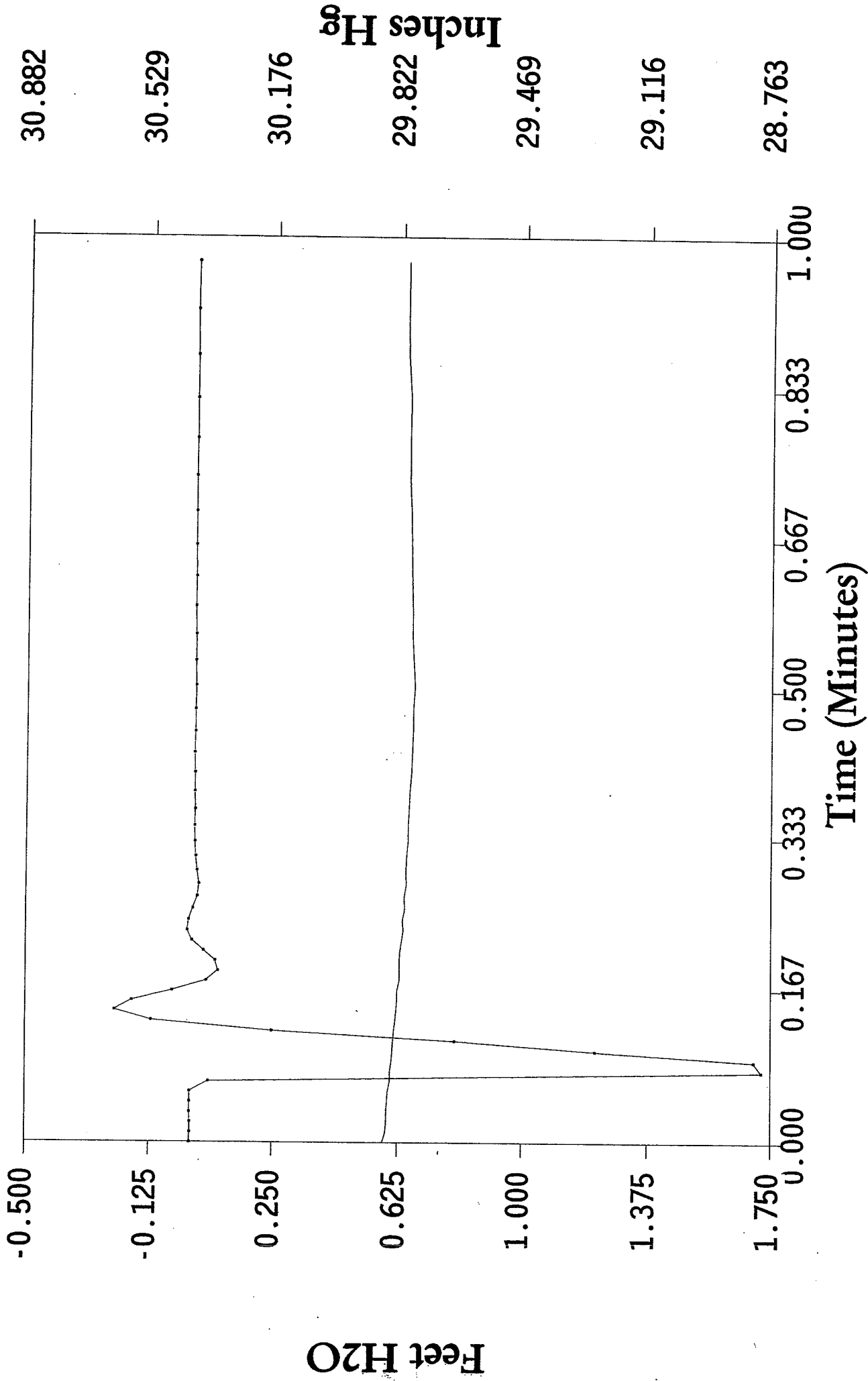
| Date    | Time     | ET (min) | Chan[2]<br>Feet H2O | Chan[0]<br>Inches Hg |
|---------|----------|----------|---------------------|----------------------|
| 2/20/03 | 12:04:06 | 3.5753   | 0.004               | 29.836               |
| 2/20/03 | 12:04:19 | 3.7855   | 0.004               | 29.84                |
| 2/20/03 | 12:04:32 | 4.0082   | 0.004               | 29.844               |
| 2/20/03 | 12:04:46 | 4.244    | 0.004               | 29.842               |
| 2/20/03 | 12:05:01 | 4.4938   | 0.004               | 29.846               |
| 2/20/03 | 12:05:17 | 4.7585   | 0.003               | 29.85                |
| 2/20/03 | 12:05:34 | 5.0388   | 0.001               | 29.854               |
| 2/20/03 | 12:05:52 | 5.3357   | 0.001               | 29.85                |
| 2/20/03 | 12:06:11 | 5.6502   | 0.003               | 29.852               |
| 2/20/03 | 12:06:31 | 5.9833   | 0.001               | 29.854               |
| 2/20/03 | 12:06:52 | 6.3362   | -0.001              | 29.852               |
| 2/20/03 | 12:07:14 | 6.71     | 0                   | 29.854               |
| 2/20/03 | 12:07:38 | 7.106    | 0                   | 29.854               |
| 2/20/03 | 12:08:03 | 7.5253   | -0.001              | 29.856               |
| 2/20/03 | 12:08:30 | 7.9697   | -0.001              | 29.856               |
| 2/20/03 | 12:08:58 | 8.4403   | -0.001              | 29.854               |
| 2/20/03 | 12:09:28 | 8.9388   | -0.004              | 29.856               |

# TMW-1D Test #3



[2] - Ch. #2 #6986 10# [0] - Barometric

# TMW-1D Test #3



[2] - Ch. #2 #6986 10#

[0] - Barometric

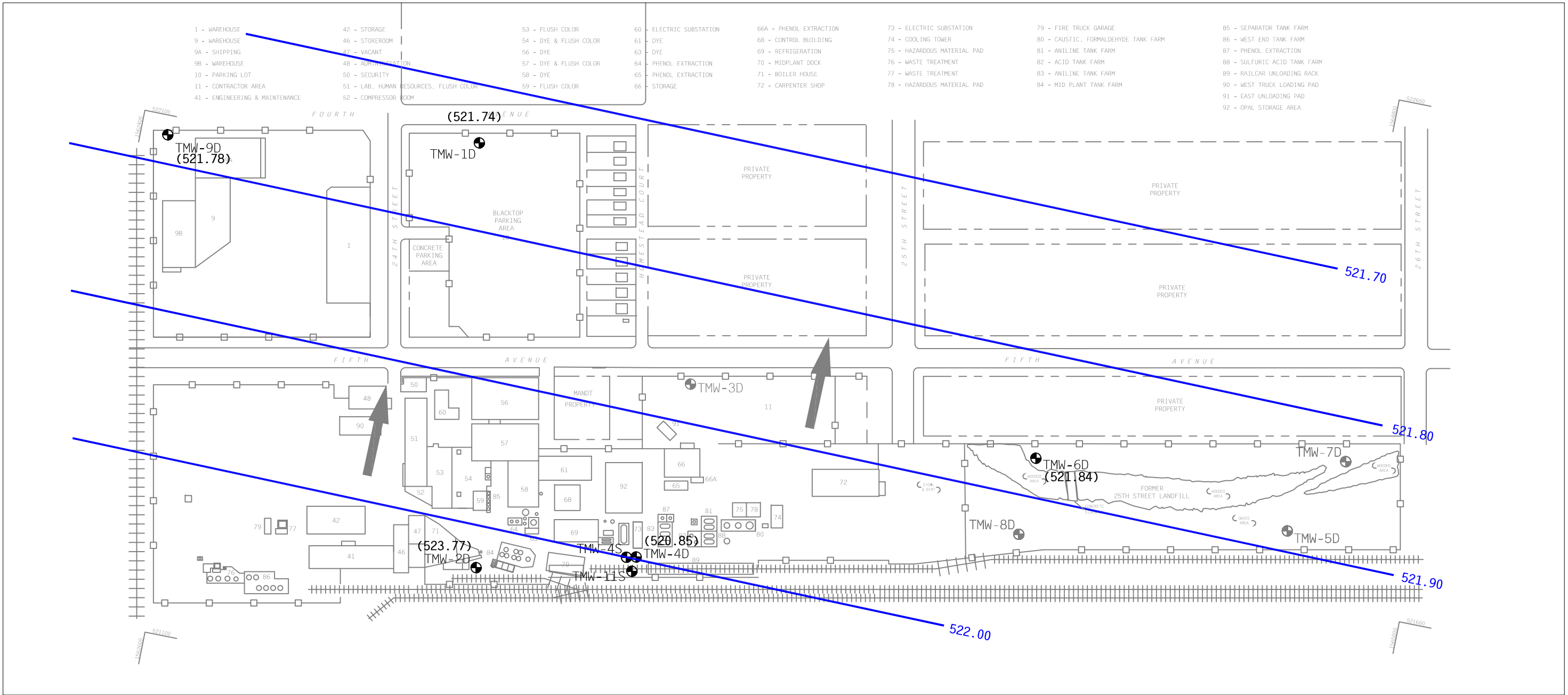
## **ATTACHMENT E**

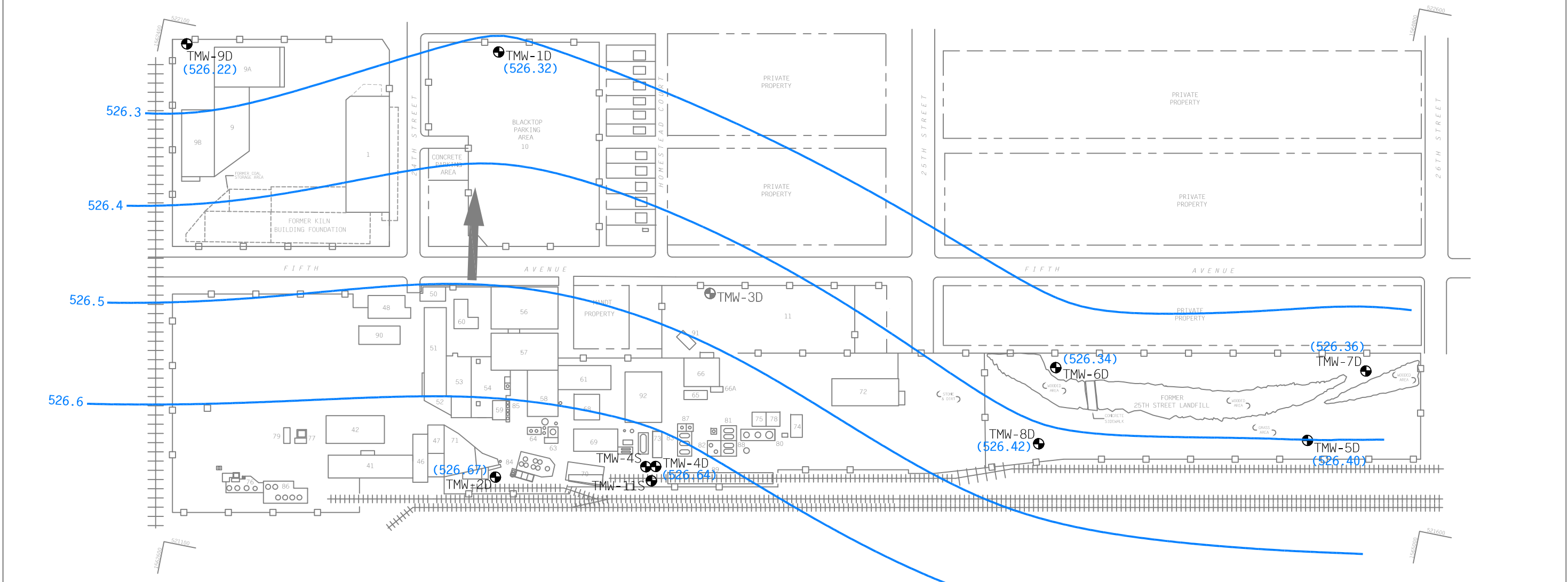
### **Potentiometric Ground Water Contours 2002, 2003 and 2005**





G:\99184-BASF\_WV\CADD\99184\_GWC.dwg, 2010RFL\_E2, 5/12/2010 3:06:51 PM, Lauren





LEGEND

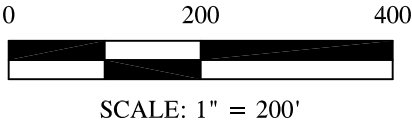
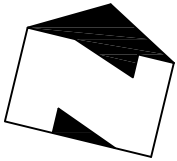
- TMW-1D MONITORING WELL LOCATION AND ID
- TMW-3D ABANDONED MONITORING WELL LOCATION AND ID
- PROPERTY LINE
- FENCELINE
- RAILROAD
- BUILDING ID
- GROUND WATER ELEVATION (FEET)
- GROUND WATER ELEVATION CONTOUR (FEET)  
CONTOUR INTERVAL = 0.10 FEET
- INFERRED GROUND WATER FLOW DIRECTION
- NM NOT MEASURED

NOTES:

- FIGURE IS IN NAD 83 WEST VIRGINIA STATE PLANE COORDINATES SOUTH ZONE, US FOOT.
- TMW-4S AND TMW-11S ARE SCREENED AT SHALLOWER INTERVALS THAN THE TMW-#D WELLS. THEREFORE DATA FROM TMW-4S AND TMW-11S WAS NOT USED TO GENERATE CONTOURS.
- MONITORING WELL TMW-3D WAS DAMAGED IN FALL/WINTER 2002 AND CLOSED IN FEBRUARY 2003.
- CONTOURS WERE GENERATED USING SURFER v8.0 WITH A KRIEGG ROUTINE.

SOURCE:

- "GENERAL PLANT MAP HUNTINGTON WORKS", DRAWING NUMBER 110-HUN-W1-GEN-001, BY BASF CORPORATION, DATED FEBRUARY 1996, REVISION 13.



TITLE:  
**FIGURE E3**  
**POTENTIOMETRIC CONTOURS FOR GROUND WATER**  
February 28, 2005

LOCATION:  
**BASF CORPORATION**  
**HUNTINGTON,**  
**WEST VIRGINIA**

DATE: 05/25/05

FILENAME: 99184\_WELLS

LAYOUT: 2008FSP\_E3



ENVIRONMENTAL LIABILITY MANAGEMENT, INC.  
218 Wall Street, Research Park, Princeton, NJ 08540  
4920 York Road, Ste. 2CC2, P.O. Box 306, Holicong, PA 18928  
612 Main Street, 2nd Floor, Boonton, NJ 07005

**ATTACHMENT F**

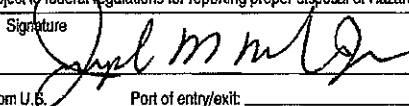
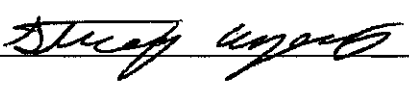
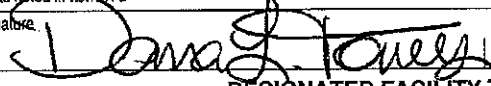
**Soil Drill Cuttings and Purge Water Disposal Manifest**

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

|                                                                                                                                                                                                                       |  |                                              |                                                                                                                                                             |                                                    |                                          |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|------------------------------------------|------------------|
| <b>NON-HAZARDOUS WASTE MANIFEST</b>                                                                                                                                                                                   |  | 1. Generator ID Number<br><b>E X E M P T</b> | 2. Page 1 of<br><b>1</b>                                                                                                                                    | 3. Emergency Response Phone<br><b>877-736-7303</b> | 4. Waste Tracking Number<br><b>09101</b> |                  |
| 5. Generator's Name and Mailing Address<br><b>BASF CORPORATION</b><br><b>100 Campus Drive, Florham Park, NJ 07932</b><br>Generator's Phone: <b>973-383-2649 -- Joseph McKeon</b>                                      |  |                                              | Generator's Site Address (if different than mailing address)<br><b>FLINT GROUP</b><br><b>2401 Fifth Avenue, Huntington, WV 25703</b><br><b>304-528-2301</b> |                                                    |                                          |                  |
| 6. Transporter 1 Company Name<br><b>ECO-FIRST, Inc.</b>                                                                                                                                                               |  |                                              | U.S. EPA ID Number<br><b>WVR000501304</b>                                                                                                                   |                                                    |                                          |                  |
| 7. Transporter 2 Company Name                                                                                                                                                                                         |  |                                              | U.S. EPA ID Number                                                                                                                                          |                                                    |                                          |                  |
| 8. Designated Facility Name and Site Address<br><b>ECO-FIRST, Inc.</b><br><b>3 Harvest View Drive, Lesage, WV 25537</b><br>Facility's Phone: <b>304-736-7303 -- Dana Tomes</b>                                        |  |                                              | U.S. EPA ID Number<br><b>WVR000501304</b>                                                                                                                   |                                                    |                                          |                  |
| 9. Waste Shipping Name and Description                                                                                                                                                                                |  | 10. Containers                               |                                                                                                                                                             | 11. Total Quantity                                 | 12. Unit Wt./Vol.                        |                  |
|                                                                                                                                                                                                                       |  | No.                                          | Type                                                                                                                                                        |                                                    |                                          |                  |
| 1. <b>Non-Regulated Soil Cuttings</b>                                                                                                                                                                                 |  | <b>006</b>                                   | <b>DM</b>                                                                                                                                                   | <b>1800</b>                                        | <b>P</b>                                 |                  |
| 2. <b>Non-Regulated Purge/Development Waters</b>                                                                                                                                                                      |  | <b>001</b>                                   | <b>DM</b>                                                                                                                                                   | <b>0050</b>                                        | <b>G</b>                                 |                  |
| 3.                                                                                                                                                                                                                    |  |                                              |                                                                                                                                                             |                                                    |                                          |                  |
| 4.                                                                                                                                                                                                                    |  |                                              |                                                                                                                                                             |                                                    |                                          |                  |
| 13. Special Handling Instructions and Additional Information<br><b>Analysis on file.</b>                                                                                                                              |  |                                              |                                                                                                                                                             |                                                    |                                          |                  |
| 14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.                                      |  |                                              |                                                                                                                                                             |                                                    |                                          |                  |
| Generator's/Officer's Printed/Typed Name<br><b>Joseph M McKeon Jr BASF Corporation</b>                                                                                                                                |  |                                              | Signature<br>                                                           |                                                    | Month<br><b>09</b>                       | Day<br><b>10</b> |
| 15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.                                                                                                         |  |                                              | Port of entry/exit:                                                                                                                                         |                                                    | Year<br><b>09</b>                        |                  |
| Transporter Signature (for exports only):                                                                                                                                                                             |  |                                              | Date leaving U.S.:                                                                                                                                          |                                                    |                                          |                  |
| 16. Transporter Acknowledgment of Receipt of Materials                                                                                                                                                                |  |                                              | Signature<br>                                                           |                                                    | Month<br><b>09</b>                       | Day<br><b>10</b> |
| Transporter 1 Printed/Typed Name<br><b>STEPHANIE AYERS, ECO-FIRST, Inc.</b>                                                                                                                                           |  |                                              | Signature                                                                                                                                                   |                                                    | Year<br><b>09</b>                        |                  |
| Transporter 2 Printed/Typed Name                                                                                                                                                                                      |  |                                              | Signature                                                                                                                                                   |                                                    | Month                                    | Day              |
| 17. Discrepancy                                                                                                                                                                                                       |  |                                              | Manifest Reference Number:                                                                                                                                  |                                                    | Year                                     |                  |
| 17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection |  |                                              |                                                                                                                                                             |                                                    |                                          |                  |
| 17b. Alternate Facility (or Generator)                                                                                                                                                                                |  |                                              | U.S. EPA ID Number                                                                                                                                          |                                                    |                                          |                  |
| Facility's Phone:                                                                                                                                                                                                     |  |                                              |                                                                                                                                                             |                                                    |                                          |                  |
| 17c. Signature of Alternate Facility (or Generator)                                                                                                                                                                   |  |                                              |                                                                                                                                                             |                                                    | Month                                    | Day              |
|                                                                                                                                                                                                                       |  |                                              |                                                                                                                                                             |                                                    | Year                                     |                  |
| 18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a                                                                                  |  |                                              |                                                                                                                                                             |                                                    |                                          |                  |
| Printed/Typed Name<br><b>Dana L. Tomes, ECO-FIRST, Inc.</b>                                                                                                                                                           |  |                                              | Signature<br>                                                           |                                                    | Month<br><b>09</b>                       | Day<br><b>10</b> |
|                                                                                                                                                                                                                       |  |                                              |                                                                                                                                                             |                                                    | Year<br><b>09</b>                        |                  |

**ATTACHMENT G**  
**July 2009 Ground Water Sampling Report**

Monitoring Well/Groundwater Elevations  
Former BASF Plant Huntington, WV

| Well No. | Date of Sampling | SWL   | Top of Casing Elevation | GW Elevation MSL |
|----------|------------------|-------|-------------------------|------------------|
| TMW-1D   | 7/23/09          | 24.66 | 548.23                  | 523.57           |
| TMW-2D   | 7/23/09          | 25.12 | 549.46                  | 524.34           |
| TMW-4S   | 7/23/09          | 26.22 | 550.37                  | 524.15           |
| TMW-4D   | 7/23/09          | 26.27 | 550.42                  | 524.15           |
| TMW-5D   | 7/24/09          | 34.14 | 557.97                  | 523.83           |
| TMW-6D   | 7/24/09          | 25.78 | 549.7                   | 523.92           |
| TMW-7D   | 7/24/09          | 27.00 | 550.69                  | 523.69           |
| TMW-8D   | 7/24/09          | 33.87 | 557.79                  | 523.92           |
| TMW-9D   | 7/22/09          | 25.00 | 548.48                  | 523.48           |
| TMW-11S  | 7/23/09          | 30.86 | 554.99                  | 524.13           |
| TMW-12D  | 7/22/09          | 22.23 | 545.79                  | 523.56           |

Note: Wells TMW-2D and TMW-11S surveyed 2-05 by Potesta. Wells TMW-4S and TMW-12D surveyed 7-09 by Potesta.

**BASF Huntington Works Facility**  
**Huntington, West Virginia**

**Date:** 07/22/09  
**Well Dia. (in):** 2

Well Dia. (in):

**Screen Depth (ft):** 44.5 to 54.5

**Sampling Method:** Bladder pump

**Field Sampler:** D. Junker / L. Sullivan

Sample collected at 1600

**BASF Huntington Works Facility**  
**Huntington, West Virginia**

**Pump Depth (ft):** 52

Sample collected at 1743

\*Note: Observed PVC dust in purge water potentially due to well installation.



**BASF Huntington Works Facility**  
**Huntington, West Virginia**

|       |  |  |  |
|-------|--|--|--|
| Spec. |  |  |  |
|-------|--|--|--|

Page 1 of 1  
First Semi-Annual 2009 GW Sampling Report (08-0250-001)\TMW-1D

**BASF Huntington Works Facility**  
**Huntington, West Virginia**

BASF, Huntington, WV

Date: 07/23/09

Well ID:

Well ID: TMW-2D

Well Dia. (in):

2017-18

Total Depth (ft):

Total Depth (ft): 38.5

Screen Depth (ft):

Well Dia. (in): 28.5-38.5

**Pump Depth (ft):** 36

### Purge Method:

### Purge Method:

**Sampling Method:** Bladder pump

**Screening Paper (it):** Z6.9-30.9

**Screening Paper (it):** Z6.9-30.9

**Weather:**

**Weather:** Cloudy 80°F

## Sampling near Field Sampler:

**Field Sampler:** D. Junker / I. Sullivan

[illegible]

**BASF Huntington Works Facility**  
**Huntington, West Virginia**

[illegible]

**BASF Huntington Works Facility**  
**Huntington, West Virginia**

**Date:** 07/23/09  
**Well Dia. (in):** 2  
**Screen Depth (ft):** 51 to 56  
**Sampling Method:**  
**Field Sampler:** D. Junke

Screen Depth (ft): 51 to 56

**Field Sampler:** D. Junker / L. Sullivan

|                          |  |
|--------------------------|--|
| Sample collected at 1630 |  |
|--------------------------|--|

|                            |                            |      |
|----------------------------|----------------------------|------|
| Duplicate sample (TMW-10D) | collected time recorded as | 0800 |
|----------------------------|----------------------------|------|

**BASF Huntington Works Facility**  
**Huntington, West Virginia**

**Date:** 07/23/09  
**Well Dia. (in):** 2

Well Dia. (in):

**Screen Depth (ft):** 25 - 35

**Sampling Method:** Bladder pump

**Field Sampler:** D. Junker / L. Sullivan

[illegible]

**BASF Huntington Works Facility**  
Huntington, West Virginia

|  |  |  |  |                         |
|--|--|--|--|-------------------------|
|  |  |  |  | D. Jankel / E. Sullivan |
|--|--|--|--|-------------------------|

Sample collected at 1225



**BASF Huntington Works Facility**  
**Huntington, West Virginia**

**Date:** 07/24/09  
**Well Dia. (in):** 2

Well Dia. (in):

**Screen Depth (ft):** 48.5 - 58.5

**Sampling Method:** Bladder pump

**Field Sampler:** D. Junker / L. Sullivan

[illegible]



**BASF Huntington Works Facility**  
Huntington, West Virginia

D. Junker / I

Sample collected at 1635

## **ATTACHMENT H**

### **Data Validation Report (bound separately)**

**ATTACHMENT I**

**Environmental Resource Associates  
Performance Evaluation Results for Sample AOC2-22-10.0**

# **Data Pack™ Certification Sheet(s)**

**The data contained in this section of the Data Pack™ contains all of the certification sheets for the quality control samples that you have ordered.**

**If you have any questions concerning the data listed in this portion of your Data Pack™ please feel free to call ERA's Technical Staff at 1-800-372-0122.**







**ENVIRONMENTAL  
RESOURCE ASSOCIATES®**  
The Industry Standard™

- 1. The Total Concentrations** are equal to the background concentrations in the soil matrix (measured using neutron activation, XRF, and total digestion techniques) plus the amount of each analyte spiked onto the soil. For Trace Metals, the values listed are only "theoretical values" based upon the methodologies listed.
- 2. The Certified Values** are equal to the mean recoveries for the parameters as determined in an interlaboratory round robin study based on all applicable digestion techniques reported in the study. The certified values are based on an "as received" basis, assuming 100% solids content.
- 3. The stated Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA using a 3050 digestion procedure followed by ICP and/or ICP-MS analysis for the metals and a BrCl leach followed by CVAA analysis for Hg.
- 4. The QC Performance Acceptance Limits (QC PALS™)** are based on actual historical data collected in ERA's Proficiency Testing program. The **QC PALS™** reflect any inherent biases in the methods used to establish the limits and closely approximate a 95% confidence interval of the performance that experienced laboratories should achieve using accepted environmental methods. Use the **QC PALS™** to realistically evaluate your performance against your peers.
- 5. The PT Performance Acceptance Limits (PT PALS™)** are calculated using the regression equations and fixed acceptance criteria specified in the NELAC proficiency testing requirements. Use the **PT PALS™** when analyzing this QC standard alongside USEPA and NELAC compliant PT standards. Please note that many PT study acceptance limits are concentration dependent (some non-linearly) and, therefore, the acceptance limits of this QC standard and any PT standard may differ relative to their difference in concentrations.

This standard **expires 10/2010**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to [info@eraqc.com](mailto:info@eraqc.com).

Certifying Officer: Tom Widera

## Certificate of Analysis

Lot No. D061-540

## Metals in Soil

Catalog No. 540

Issue Date: May 1, 2008

Revision Date: Original

### Certification

| Parameter  | Total<br>Concentration <sup>1</sup><br>(mg/kg) | Certified<br>Value <sup>2</sup><br>(mg/kg) | Uncertainty <sup>3</sup> | QC<br>PALs™ <sup>4</sup><br>(mg/kg) | PT<br>PALs™ <sup>5</sup><br>(mg/kg) |
|------------|------------------------------------------------|--------------------------------------------|--------------------------|-------------------------------------|-------------------------------------|
| aluminum   | 61800                                          | 10600                                      | 5.1%                     | 5750 - 15400                        | 4880 - 16300                        |
| antimony   | 267                                            | 126                                        | 1.6%                     | 63.3 - 189                          | 26.5 - 317                          |
| arsenic    | 253                                            | 225                                        | 3.8%                     | 181 - 270                           | 160 - 290                           |
| barium     | 1160                                           | 565                                        | 4.6%                     | 461 - 669                           | 422 - 709                           |
| beryllium  | 178                                            | 162                                        | 5.4%                     | 134 - 190                           | 122 - 202                           |
| boron      | 129                                            | 107                                        | 9.3%                     | 74.3 - 139                          | 63.1 - 151                          |
| cadmium    | 79.5                                           | 69.1                                       | 6.3%                     | 58.1 - 80.1                         | 50.6 - 87.6                         |
| calcium    | 18100                                          | 10000                                      | 7.1%                     | 8310 - 11700                        | 7540 - 12400                        |
| chromium   | 356                                            | 124                                        | 5.4%                     | 101 - 147                           | 86.7 - 161                          |
| cobalt     | 132                                            | 115                                        | 6.2%                     | 95.6 - 135                          | 85.7 - 145                          |
| copper     | 78.8                                           | 66.7                                       | 5.3%                     | 53.9 - 79.5                         | 48.8 - 84.6                         |
| iron       | 34400                                          | 17600                                      | 2.4%                     | 8930 - 26400                        | 7320 - 28000                        |
| lead       | 272                                            | 223                                        | 3.6%                     | 183 - 264                           | 168 - 279                           |
| magnesium  | 7440                                           | 4260                                       | 5.6%                     | 3290 - 5230                         | 2980 - 5540                         |
| manganese  | 695                                            | 368                                        | 4.8%                     | 304 - 433                           | 279 - 458                           |
| mercury    | 5.20                                           | 5.15                                       | 20.1%                    | 3.69 - 6.61                         | 2.63 - 7.67                         |
| molybdenum | 136                                            | 107                                        | 6.2%                     | 83.8 - 130                          | 75.0 - 141                          |
| nickel     | 202                                            | 172                                        | 7.0%                     | 140 - 204                           | 127 - 218                           |
| potassium  | 24200                                          | 4090                                       | 4.4%                     | 2960 - 5220                         | 2660 - 5520                         |
| selenium   | 166                                            | 147                                        | 3.5%                     | 114 - 180                           | 98.7 - 195                          |
| silver     | 40.1                                           | 35.2                                       | 7.0%                     | 23.3 - 47.1                         | 23.1 - 47.3                         |
| sodium     | 13500                                          | 538                                        | 7.1%                     | 366 - 710                           | 280 - 796                           |
| strontium  | 294                                            | 117                                        | 6.1%                     | 94.8 - 139                          | 82.3 - 151                          |
| thallium   | 197                                            | 173                                        | 3.2%                     | 140 - 205                           | 119 - 227                           |
| tin        | 189                                            | 164                                        | 5.3%                     | 121 - 207                           | 99.1 - 229                          |
| titanium   | 2920                                           | 381                                        | 2.8%                     | 116 - 647                           | 0.00 - 779                          |
| vanadium   | 155                                            | 93.9                                       | 4.4%                     | 72.1 - 116                          | 60.6 - 127                          |
| zinc       | 424                                            | 349                                        | 5.8%                     | 280 - 418                           | 252 - 446                           |

Please see footnotes on back







The Industry Standard™

## Certificate of Analysis

Lot No. D060-726

Expiration Date:<sup>1</sup> 10/2010

## PriorityPollutn™ PCBs in Soil

Catalog No. 726

Issue Date: January 22, 2009

Revision: Original

### Certification

| Parameter    | Certified Value <sup>2</sup> | Uncertainty <sup>3</sup> | QC Performance Acceptance Limits <sup>4</sup> | PT Performance Acceptance Limits <sup>5</sup> |
|--------------|------------------------------|--------------------------|-----------------------------------------------|-----------------------------------------------|
|              | mg/kg                        | %                        | mg/kg                                         | mg/kg                                         |
| Aroclor 1016 | <0.5                         | -                        | -                                             | -                                             |
| Aroclor 1221 | <0.5                         | -                        | -                                             | -                                             |
| Aroclor 1232 | <0.5                         | -                        | -                                             | -                                             |
| Aroclor 1242 | <0.5                         | -                        | -                                             | -                                             |
| Aroclor 1248 | <0.5                         | -                        | -                                             | -                                             |
| Aroclor 1254 | 4.70                         | 16                       | 1.98 - 5.64                                   | 0.993 - 7.24                                  |
| Aroclor 1260 | <0.5                         | -                        | -                                             | -                                             |

### Analytical Verification

| Parameter    | Certified Value | Proficiency Testing Study <sup>6</sup> |      |     |
|--------------|-----------------|----------------------------------------|------|-----|
|              |                 | Mean Recovery                          |      |     |
|              | mg/kg           | mg/kg                                  | %    | n   |
| Aroclor 1016 | <0.5            | -                                      | -    | -   |
| Aroclor 1221 | <0.5            | -                                      | -    | -   |
| Aroclor 1232 | <0.5            | -                                      | -    | -   |
| Aroclor 1242 | <0.5            | -                                      | -    | -   |
| Aroclor 1248 | <0.5            | -                                      | -    | -   |
| Aroclor 1254 | 4.70            | 4.12                                   | 87.7 | 102 |
| Aroclor 1260 | <0.5            | -                                      | -    | -   |

1. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

2. The Certified Values are the actual 'made-to' concentrations confirmed by ERA analytical verification.

3. The stated Uncertainty is the total propagated uncertainty at the 95% confidence interval. This Uncertainty is based on the internal analytical verification of the product by ERA. The method of calculating uncertainty is taken from the ISO Guide to the Expression of Uncertainty in Measurement (current version). The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

4. The QC Performance Acceptance Limits (QC PALS™) are based on actual historical data collected in ERA's Proficiency Testing program. The QC PALS™ reflect any inherent biases in the methods used to establish the limits and closely approximate a 95% confidence interval of the performance that experienced laboratories should achieve using accepted environmental methods. Use the QC PALS™ to realistically evaluate your performance against your peers.

5. The PT Performance Acceptance Limits (PT PALS™) are calculated using the regression equations and fixed acceptance criteria specified in the USEPA National Standards Criteria Document and/or the NELAC proficiency testing requirements. Use the PT PALS™ when analyzing this QC standard alongside USEPA and NELAC compliant PT standards. Please note that many PT study acceptance limits are concentration dependent (some non-linearly) and, therefore, the acceptance limits of this QC standard and any PT standard may differ relative to their difference in concentrations.

6. The Analytical Verification data include the mean value, percent recovery and number of data points reported by the laboratories in our Proficiency Testing study compared to the Certified Values.

Please call ERA at 1-800-372-0122 or email to [info@eraqc.com](mailto:info@eraqc.com) if you have questions or need technical assistance.

Certifying Officer: Michael Blades



## Certificate of Analysis

Lot No. D062-727

Expiration Date:<sup>1</sup> 03/2011

PriorityPollutnT™ Base/Neutrals and Acids in Soil

Catalog No. 727

Issue Date: July 01, 2008

Revision: Original

## Analytical Verification

| Parameter                  | Certified<br>Value | Proficiency Testing Study <sup>6</sup> |      |    |
|----------------------------|--------------------|----------------------------------------|------|----|
|                            |                    | Mean Recovery                          |      | n  |
|                            | µg/kg              | µg/kg                                  | %    |    |
| Nitrobenzene               | 9030               | 6060                                   | 67.1 | 83 |
| 2-Nitrophenol              | 14100              | 9020                                   | 64.0 | 82 |
| 4-Nitrophenol              | 7750               | 4880                                   | 63.0 | 80 |
| N-Nitrosodiethylamine      | <1000              | -                                      | -    | -  |
| N-Nitrosodimethylamine     | 5450               | 3350                                   | 61.5 | 70 |
| N-Nitrosodiphenylamine     | <1000              | -                                      | -    | -  |
| N-Nitroso-di-n-propylamine | 11100              | 8030                                   | 72.3 | 81 |
| Pentachlorobenzene         | <1000              | -                                      | -    | -  |
| Pentachlorophenol          | 13900              | 6810                                   | 49.0 | 85 |
| Phenanthrene               | 3330               | 2680                                   | 80.5 | 86 |
| Phenol                     | 8410               | 5420                                   | 64.4 | 82 |
| Pyrene                     | 1810               | 1570                                   | 86.7 | 85 |
| Pyridine                   | <1000              | -                                      | -    | -  |
| 1,2,4,5-Tetrachlorobenzene | <1000              | -                                      | -    | -  |
| 2,3,4,6-Tetrachlorophenol  | <1000              | -                                      | -    | -  |
| 1,2,4-Trichlorobenzene     | 13100              | 8400                                   | 64.1 | 80 |
| 2,4,5-Trichlorophenol      | 9790               | 6860                                   | 70.1 | 83 |
| 2,4,6-Trichlorophenol      | 7990               | 5470                                   | 68.5 | 83 |

6. The Analytical Verification data include the mean value, percent recovery and number of data points reported by the laboratories in our Proficiency Testing study compared to the Certified Values.

Please call ERA at 1-800-372-0122 or email to [info@eraqc.com](mailto:info@eraqc.com) if you have questions or need technical assistance.

Certifying Officer: Michael Blades



The Industry Standard™

## Certificate of Analysis

Lot No. D062-727

Expiration Date:<sup>1</sup> 03/2011

PriorityPollutnT™ Base/Neutrals and Acids in Soil

Catalog No. 727

Issue Date: July 01, 2008

Revision: Original

### Analytical Verification

| Parameter                             | Certified Value | Proficiency Testing Study <sup>6</sup> |               |    |
|---------------------------------------|-----------------|----------------------------------------|---------------|----|
|                                       | µg/kg           | µg/kg                                  | Mean Recovery | n  |
| Acenaphthene                          | 4200            | 3120                                   | 74.3          | 85 |
| Acenaphthylene                        | 2840            | 2220                                   | 78.2          | 85 |
| 2-Amino-1-methylbenzene (o-toluidine) | <1000           | -                                      | -             | -  |
| Aniline                               | <1000           | -                                      | -             | -  |
| Anthracene                            | 8580            | 6530                                   | 76.1          | 85 |
| Benzidine                             | <1000           | -                                      | -             | -  |
| Benzoic acid                          | <1000           | -                                      | -             | -  |
| Benzo(a)anthracene                    | 3490            | 2810                                   | 80.5          | 85 |
| Benzo(b)fluoranthene                  | 4250            | 3360                                   | 79.1          | 85 |
| Benzo(k)fluoranthene                  | 4160            | 3390                                   | 81.5          | 85 |
| Benzo(g,h,i)perylene                  | 1460            | 1160                                   | 79.4          | 81 |
| Benzo(a)pyrene                        | 4160            | 3200                                   | 76.9          | 85 |
| Benzyl alcohol                        | <1000           | -                                      | -             | -  |
| bis(2-Chloroethoxy)methane            | 11800           | 8360                                   | 70.8          | 77 |
| bis(2-Chloroethyl)ether               | 10800           | 7190                                   | 66.6          | 81 |
| bis(2-Chloroisopropyl)ether           | 2900            | 1990                                   | 68.6          | 79 |
| 4-Bromophenyl-phenylether             | <1000           | -                                      | -             | -  |
| Butylbenzylphthalate                  | <1000           | -                                      | -             | -  |
| Carbazole                             | <1000           | -                                      | -             | -  |
| 4-Chloroaniline                       | <1000           | -                                      | -             | -  |
| 4-Chloro-3-methylphenol               | <1000           | -                                      | -             | -  |
| 1-Chloronaphthalene                   | <1000           | -                                      | -             | -  |
| 2-Chloronaphthalene                   | <1000           | -                                      | -             | -  |
| 2-Chlorophenol                        | 6860            | 4380                                   | 63.8          | 81 |
| 4-Chlorophenyl-phenylether            | 13800           | 10600                                  | 76.8          | 79 |
| Chrysene                              | 2610            | 2280                                   | 87.4          | 84 |
| Dibenz(a,h)anthracene                 | <1000           | -                                      | -             | -  |
| Dibenzofuran                          | 7390            | 5470                                   | 74.0          | 78 |
| Di-n-butylphthalate                   | <1000           | -                                      | -             | -  |
| 1,2-Dichlorobenzene                   | <1000           | -                                      | -             | -  |
| 1,3-Dichlorobenzene                   | 12400           | 6310                                   | 50.9          | 77 |
| 1,4-Dichlorobenzene                   | 8240            | 4340                                   | 52.7          | 82 |
| 3,3'-Dichlorobenzidine                | <1000           | -                                      | -             | -  |
| 2,4-Dichlorophenol                    | <1000           | -                                      | -             | -  |
| 2,6-Dichlorophenol                    | 4350            | 2910                                   | 66.9          | 43 |
| Diethylphthalate                      | <1000           | -                                      | -             | -  |
| 2,4-Dimethylphenol                    | <1000           | -                                      | -             | -  |
| Dimethylphthalate                     | <1000           | -                                      | -             | -  |
| 2,4-Dinitrophenol                     | 8240            | 1280                                   | 15.5          | 56 |
| 2,4-Dinitrotoluene                    | <1000           | -                                      | -             | -  |
| 2,6-Dinitrotoluene                    | <1000           | -                                      | -             | -  |
| Di-n-octylphthalate                   | <1000           | -                                      | -             | -  |
| bis(2-Ethylhexyl)phthalate            | 4090            | 3420                                   | 83.6          | 79 |
| Fluoranthene                          | 2460            | 2000                                   | 81.3          | 85 |
| Fluorene                              | 3340            | 2610                                   | 78.1          | 86 |
| Hexachlorobenzene                     | 9740            | 7740                                   | 79.5          | 82 |
| Hexachlorobutadiene                   | 9650            | 5770                                   | 59.8          | 83 |
| Hexachlorocyclopentadiene             | <1000           | -                                      | -             | -  |
| Hexachloroethane                      | <1000           | -                                      | -             | -  |
| Indeno(1,2,3-cd)pyrene                | <1000           | -                                      | -             | -  |
| Isophorone                            | 5210            | 3900                                   | 74.9          | 79 |
| 4,6-Dinitro-2-methylphenol            | 13700           | 4470                                   | 32.6          | 74 |
| 2-Methylnaphthalene                   | 3090            | 2380                                   | 77.0          | 80 |
| 2-Methylphenol                        | 8350            | 3870                                   | 46.4          | 84 |
| 3&4-Methylphenol                      | 11100           | 5990                                   | 54.0          | 85 |
| Naphthalene                           | <1000           | -                                      | -             | -  |
| 2-Nitroaniline                        | <1000           | -                                      | -             | -  |
| 3-Nitroaniline                        | <1000           | -                                      | -             | -  |
| 4-Nitroaniline                        | <1000           | -                                      | -             | -  |



## Certificate of Analysis

Lot No. D062-727

Expiration Date:<sup>1</sup> 03/2011

## PriorityPollutnT™ Base/Neutrals and Acids in Soil

Catalog No. 727

Issue Date: July 01, 2008

Revision: Original

## Certification

| Parameter                  | Certified Value <sup>2</sup> | Uncertainty <sup>3</sup> | QC Performance Acceptance Limits <sup>4</sup> | PT Performance Acceptance Limits <sup>5</sup> |
|----------------------------|------------------------------|--------------------------|-----------------------------------------------|-----------------------------------------------|
|                            | µg/kg                        | %                        | µg/kg                                         | µg/kg                                         |
| Nitrobenzene               | 9030                         | 13                       | 2950 - 9210                                   | 1580 - 10500                                  |
| 2-Nitrophenol              | 14100                        | 5.9                      | 3880 - 14100                                  | 1780 - 16300                                  |
| 4-Nitrophenol              | 7750                         | 11                       | 1080 - 8060                                   | 775 - 10700                                   |
| N-Nitrosodiethylamine      | <1000                        | -                        | -                                             | -                                             |
| N-Nitrosodimethylamine     | 5450                         | 6.6                      | 954 - 5610                                    | 701 - 6010                                    |
| N-Nitrosodiphenylamine     | <1000                        | -                        | -                                             | -                                             |
| N-Nitroso-di-n-propylamine | 11100                        | 14                       | 3350 - 12100                                  | 1500 - 14600                                  |
| Pentachlorobenzene         | <1000                        | -                        | -                                             | -                                             |
| Pentachlorophenol          | 13900                        | 3.2                      | 2110 - 13900                                  | 1390 - 15300                                  |
| Phenanthrene               | 3330                         | 11                       | 1710 - 3800                                   | 987 - 4380                                    |
| Phenol                     | 8410                         | 7.2                      | 2190 - 8410                                   | 841 - 10000                                   |
| Pyrene                     | 1810                         | 13                       | 833 - 2080                                    | 570 - 2560                                    |
| Pyridine                   | <1000                        | -                        | -                                             | -                                             |
| 1,2,4,5-Tetrachlorobenzene | <1000                        | -                        | -                                             | -                                             |
| 2,3,4,6-Tetrachlorophenol  | <1000                        | -                        | -                                             | -                                             |
| 1,2,4-Trichlorobenzene     | 13100                        | 13                       | 4130 - 13100                                  | 2370 - 14400                                  |
| 2,4,5-Trichlorophenol      | 9790                         | 10                       | 2750 - 9790                                   | 1540 - 12200                                  |
| 2,4,6-Trichlorophenol      | 7990                         | 9.8                      | 2380 - 7990                                   | 1600 - 9340                                   |

1. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

2. The Certified Values are the actual 'made-to' concentrations confirmed by ERA analytical verification.

3. The stated Uncertainty is the total propagated uncertainty at the 95% confidence interval. This Uncertainty is based on the internal analytical verification of the product by ERA. The method of calculating uncertainty is taken from the ISO Guide to the Expression of Uncertainty in Measurement (current version). The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

4. The QC Performance Acceptance Limits (QC PALS™) are based on actual historical data collected in ERA's Proficiency Testing program. The QC PALS™ reflect any inherent biases in the methods used to establish the limits and closely approximate a 95% confidence interval of the performance that experienced laboratories should achieve using accepted environmental methods. Use the QC PALS™ to realistically evaluate your performance against your peers.

5. The PT Performance Acceptance Limits (PT PALS™) are calculated using the regression equations and fixed acceptance criteria specified in the USEPA National Standards Criteria Document and/or the NELAC proficiency testing requirements. Use the PT PALS™ when analyzing this QC standard alongside USEPA and NELAC compliant PT standards. Please note that many PT study acceptance limits are concentration dependent (some non-linearly) and, therefore, the acceptance limits of this QC standard and any PT standard may differ relative to their difference in concentrations.

D.L. - Detection Limit



The Industry Standard™

## Certificate of Analysis

Lot No. D062-727

Expiration Date: 03/2011

PriorityPollutnT™ Base/Neutrals and Acids in Soil

Catalog No. 727

Issue Date: July 01, 2008

Revision: Original

## Certification

| Parameter                             | Certified Value <sup>2</sup> | Uncertainty <sup>3</sup> | QC Performance Acceptance Limits <sup>4</sup> | PT Performance Acceptance Limits <sup>5</sup> |
|---------------------------------------|------------------------------|--------------------------|-----------------------------------------------|-----------------------------------------------|
|                                       | µg/kg                        | %                        | µg/kg                                         | µg/kg                                         |
| Acenaphthene                          | 4200                         | 11                       | 1800 - 4370                                   | 1060 - 5180                                   |
| Acenaphthylene                        | 2840                         | 13                       | 997 - 2840                                    | 636 - 3810                                    |
| 2-Amino-1-methylbenzene (o-toluidine) | <1000                        | -                        | -                                             | -                                             |
| Aniline                               | <1000                        | -                        | -                                             | -                                             |
| Anthracene                            | 8580                         | 11                       | 3470 - 8580                                   | 2200 - 10800                                  |
| Benididine                            | <1000                        | -                        | -                                             | -                                             |
| Benzoic acid                          | <1000                        | -                        | -                                             | -                                             |
| Benzo(a)anthracene                    | 3490                         | 19                       | 1750 - 3800                                   | 1110 - 4510                                   |
| Benzo(b)fluoranthene                  | 4250                         | 9.8                      | 1980 - 5060                                   | 1120 - 5600                                   |
| Benzo(k)fluoranthene                  | 4160                         | 20                       | 1970 - 4870                                   | 1170 - 5610                                   |
| Benzo(g,h,i)perylene                  | 1460                         | 7.5                      | 640 - 1710                                    | 226 - 2100                                    |
| Benzo(a)pyrene                        | 4160                         | 3.0                      | 1580 - 4160                                   | 976 - 5430                                    |
| Benzyl alcohol                        | <1000                        | -                        | -                                             | -                                             |
| bis(2-Chloroethoxy)methane            | 11800                        | 15                       | 4320 - 12600                                  | 2470 - 14200                                  |
| bis(2-Chloroethyl)ether               | 10800                        | 12                       | 2500 - 10800                                  | 2790 - 11900                                  |
| bis(2-Chloroisopropyl)ether           | 2900                         | 7.6                      | 884 - 3130                                    | 300 - 3720                                    |
| 4-Bromophenyl-phenylether             | <1000                        | -                        | -                                             | -                                             |
| Butylbenzylphthalate                  | <1000                        | -                        | -                                             | -                                             |
| Carbazole                             | <1000                        | -                        | -                                             | -                                             |
| 4-Chloroaniline                       | <1000                        | -                        | -                                             | -                                             |
| 4-Chloro-3-methylphenol               | <1000                        | -                        | -                                             | -                                             |
| 1-Chloronaphthalene                   | <1000                        | -                        | -                                             | -                                             |
| 2-Chloronaphthalene                   | <1000                        | -                        | -                                             | -                                             |
| 2-Chlorophenol                        | 6860                         | 6.8                      | 1790 - 6860                                   | 1040 - 7710                                   |
| 4-Chlorophenyl-phenylether            | 13800                        | 9.8                      | 6100 - 15600                                  | 3740 - 17400                                  |
| Chrysene                              | 2610                         | 6.3                      | 1310 - 3050                                   | 824 - 3740                                    |
| Dibenz(a,h)anthracene                 | <1000                        | -                        | -                                             | -                                             |
| Dibenzofuran                          | 7390                         | 10                       | 3220 - 7910                                   | 1950 - 8990                                   |
| Di-n-butylphthalate                   | <1000                        | -                        | -                                             | -                                             |
| 1,2-Dichlorobenzene                   | <1000                        | -                        | -                                             | -                                             |
| 1,3-Dichlorobenzene                   | 12400                        | 15                       | 2020 - 12400                                  | 1240 - 13600                                  |
| 1,4-Dichlorobenzene                   | 8240                         | 12                       | 1530 - 8240                                   | 824 - 9060                                    |
| 3,3'-Dichlorobenzidine                | <1000                        | -                        | -                                             | -                                             |
| 2,4-Dichlorophenol                    | <1000                        | -                        | -                                             | -                                             |
| 2,6-Dichlorophenol                    | 4350                         | 8.5                      | 1200 - 4350                                   | 1540 - 4780                                   |
| Diethylphthalate                      | <1000                        | -                        | -                                             | -                                             |
| 2,4-Dimethylphenol                    | <1000                        | -                        | -                                             | -                                             |
| Dimethylphthalate                     | <1000                        | -                        | -                                             | -                                             |
| 2,4-Dinitrophenol                     | 8240                         | 9.7                      | D.L. - 8240                                   | 0.00 - 9060                                   |
| 2,4-Dinitrotoluene                    | <1000                        | -                        | -                                             | -                                             |
| 2,6-Dinitrotoluene                    | <1000                        | -                        | -                                             | -                                             |
| Di-n-octylphthalate                   | <1000                        | -                        | -                                             | -                                             |
| bis(2-Ethylhexyl)phthalate            | 4090                         | 13                       | 1700 - 5030                                   | 956 - 5890                                    |
| Fluoranthene                          | 2460                         | 14                       | 1200 - 2780                                   | 773 - 3230                                    |
| Fluorene                              | 3340                         | 11                       | 1540 - 3610                                   | 945 - 4280                                    |
| Hexachlorobenzene                     | 9740                         | 12                       | 4580 - 10800                                  | 3110 - 12400                                  |
| Hexachlorobutadiene                   | 9650                         | 15                       | 2850 - 9650                                   | 1340 - 10600                                  |
| Hexachlorocyclopentadiene             | <1000                        | -                        | -                                             | -                                             |
| Hexachloroethane                      | <1000                        | -                        | -                                             | -                                             |
| Indeno(1,2,3-cd)pyrene                | <1000                        | -                        | -                                             | -                                             |
| Isophorone                            | 5210                         | 16                       | 1720 - 5680                                   | 1640 - 6160                                   |
| 4,6-Dinitro-2-methylphenol            | 13700                        | 14                       | 68.0 - 13700                                  | 0.00 - 15100                                  |
| 2-Methylnaphthalene                   | 3090                         | 10                       | 1120 - 3150                                   | 1080 - 3680                                   |
| 2-Methylphenol                        | 8350                         | 8.3                      | 786 - 8350                                    | 835 - 9180                                    |
| 3&4-Methylphenol                      | 11100                        | 9.6                      | 789 - 11100                                   | 1600 - 12200                                  |
| Naphthalene                           | <1000                        | -                        | -                                             | -                                             |
| 2-Nitroaniline                        | <1000                        | -                        | -                                             | -                                             |
| 3-Nitroaniline                        | <1000                        | -                        | -                                             | -                                             |
| 4-Nitroaniline                        | <1000                        | -                        | -                                             | -                                             |



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## Certificate of Analysis

Lot No. D062-924

Expiration Date:<sup>1</sup> 04/2011

PriorityPollutnT™ Ready-to-Use VOAs in Soil

Catalog No. 924

Issue Date: September 23, 2008

Revision: Original

6. The Analytical Verification data include the mean value, percent recovery and number of data points reported by the laboratories in our Proficiency Testing study compared to the Certified Values.

(1) m, o & p-xylene analyzed as total xylenes in the study.

(2) Insufficient data to report.

Please call ERA at 1-800-372-0122 or email to [info@eraqc.com](mailto:info@eraqc.com) if you have questions or need technical assistance.

Certifying Officer: Michael Blades



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## Analytical Verification

| Parameter                          | Certified Value | Proficiency Testing Study <sup>6</sup> |      |    |
|------------------------------------|-----------------|----------------------------------------|------|----|
|                                    |                 | Mean Recovery                          |      | n  |
|                                    | µg/kg           | µg/kg                                  | %    |    |
| Acetone                            | 15600           | 15000                                  | 96.2 | 34 |
| Acetonitrile                       | <1000           | -                                      | -    | -  |
| Acrolein                           | <1000           | -                                      | -    | -  |
| Benzene                            | 9860            | 9800                                   | 99.4 | 38 |
| Bromobenzene                       | 4140            | 4280                                   | 103  | 29 |
| Bromodichloromethane               | 4290            | 4400                                   | 103  | 37 |
| Bromoform                          | 2270            | 2240                                   | 98.7 | 37 |
| Bromomethane                       | <1000           | -                                      | -    | -  |
| 2-Butanone (MEK)                   | <1000           | -                                      | -    | -  |
| tert-Butyl methyl ether (MTBE)     | 6860            | 6800                                   | 99.1 | 33 |
| Carbon disulfide                   | <1000           | -                                      | -    | -  |
| Carbon tetrachloride               | 3910            | 4020                                   | 103  | 37 |
| Chlorobenzene                      | <1000           | -                                      | -    | -  |
| Chlorodibromomethane               | 1420            | 1410                                   | 99.3 | 36 |
| Chloroethane                       | <1000           | -                                      | -    | -  |
| 2-Chloroethylvinylether            | <1000           | -                                      | -    | -  |
| Chloroform                         | <1000           | -                                      | -    | -  |
| Chloromethane                      | <1000           | -                                      | -    | -  |
| 1,2-Dibromo-3-chloropropane (DBCP) | <1000           | -                                      | -    | -  |
| 1,2-Dibromoethane (EDB)            | 2300            | 2340                                   | 102  | 31 |
| Dibromomethane                     | 3210            | 3320                                   | 103  | 30 |
| 1,2-Dichlorobenzene                | <1000           | -                                      | -    | -  |
| 1,3-Dichlorobenzene                | 8940            | 8970                                   | 100  | 37 |
| 1,4-Dichlorobenzene                | 9090            | 9100                                   | 100  | 37 |
| Dichlorodifluoromethane (Freon 12) | <1000           | -                                      | -    | -  |
| 1,1-Dichloroethane                 | <1000           | -                                      | -    | -  |
| 1,2-Dichloroethane                 | 1940            | 2000                                   | 103  | 36 |
| 1,1-Dichloroethylene               | <1000           | -                                      | -    | -  |
| cis-1,2-Dichloroethylene           | 3620            | 3670                                   | 101  | 34 |
| trans-1,2-Dichloroethylene         | <1000           | -                                      | -    | -  |
| 1,2-Dichloropropane                | 8600            | 8590                                   | 99.9 | 37 |
| cis-1,3-Dichloropropylene          | <1000           | -                                      | -    | -  |
| trans-1,3-Dichloropropylene        | <1000           | -                                      | -    | -  |
| Ethylbenzene                       | 8320            | 8470                                   | 102  | 38 |
| Hexachlorobutadiene                | 6530            | 6630                                   | 102  | 27 |
| Hexachloroethane                   | 10500           | 10800                                  | 103  | 4  |
| 2-Hexanone                         | 18100           | 18700                                  | 103  | 31 |
| Isopropylbenzene                   | 7550            | 8200                                   | 109  | 32 |
| Methylene chloride                 | 7310            | 7240                                   | 99.0 | 37 |
| 4-Methyl-2-pentanone (MIBK)        | 8990            | 9150                                   | 102  | 32 |
| Naphthalene                        | 5080            | 4810                                   | 94.7 | 31 |
| Nitrobenzene                       | 8080            | see (2)                                | -    | 1  |
| Styrene                            | 5110            | 5310                                   | 104  | 35 |
| 1,1,1,2-Tetrachloroethane          | 5680            | 5840                                   | 103  | 32 |
| 1,1,2,2-Tetrachloroethane          | <1000           | -                                      | -    | -  |
| Tetrachloroethylene                | 1440            | 1620                                   | 112  | 37 |
| Toluene                            | 3730            | 3840                                   | 103  | 38 |
| 1,2,4-Trichlorobenzene             | 2140            | 2140                                   | 100  | 32 |
| 1,1,1-Trichloroethane              | 9670            | 9750                                   | 101  | 37 |
| 1,1,2-Trichloroethane              | 6090            | 6300                                   | 103  | 36 |
| Trichloroethylene                  | 8710            | 8500                                   | 97.6 | 37 |
| Trichlorofluoromethane             | <1000           | -                                      | -    | -  |
| 1,2,3-Trichloropropane (TCP)       | 7410            | 7130                                   | 96.2 | 27 |
| Vinyl acetate                      | <1000           | -                                      | -    | -  |
| Vinyl chloride                     | <1000           | -                                      | -    | -  |
| m-Xylene                           | 3810            | see (1)                                | -    | -  |
| o-Xylene                           | 1740            | see (1)                                | -    | -  |
| p-Xylene                           | 3610            | see (1)                                | -    | -  |
| Xylenes, total                     | 9160            | 9560                                   | 104  | 36 |



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Catalog No. 924

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Revision: Original

1. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

2. The Certified Values are the actual 'made-to' concentrations confirmed by ERA analytical verification.

3. The stated Uncertainty is the total propagated uncertainty at the 95% confidence interval. This Uncertainty is based on the internal analytical verification of the product by ERA. The method of calculating uncertainty is taken from the ISO Guide to the Expression of Uncertainty in Measurement (current version). The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

4. The QC Performance Acceptance Limits (QC PALS™) are based on actual historical data collected in ERA's Proficiency Testing program. The QC PALS™ reflect any inherent biases in the methods used to establish the limits and closely approximate a 95% confidence interval of the performance that experienced laboratories should achieve using accepted environmental methods. Use the QC PALS™ to realistically evaluate your performance against your peers.

5. The PT Performance Acceptance Limits (PT PALS™) are calculated using the regression equations and fixed acceptance criteria specified in the USEPA National Standards Criteria Document and/or the NELAC proficiency testing requirements. Use the PT PALS™ when analyzing this QC standard alongside USEPA and NELAC compliant PT standards. Please note that many PT study acceptance limits are concentration dependent (some non-linearly) and, therefore, the acceptance limits of this QC standard and any PT standard may differ relative to their difference in concentrations.

(1) m, o & p-xylenes analyzed as total xylenes in the study.

(2) Insufficient data to report.





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## Certification

| Parameter                          | Certified Value <sup>2</sup> | Uncertainty <sup>3</sup> | QC Performance Acceptance Limits <sup>4</sup> | PT Performance Acceptance Limits <sup>5</sup> |
|------------------------------------|------------------------------|--------------------------|-----------------------------------------------|-----------------------------------------------|
|                                    | µg/kg                        | %                        | µg/kg                                         | µg/kg                                         |
| Acetone                            | 15600                        | 6.6                      | 5790 - 22600                                  | 4450 - 23800                                  |
| Acetonitrile                       | <1000                        | -                        | -                                             | -                                             |
| Acrolein                           | <1000                        | -                        | -                                             | -                                             |
| Benzene                            | 9860                         | 3.1                      | 7830 - 11900                                  | 7220 - 12700                                  |
| Bromobenzene                       | 4140                         | 2.9                      | 3410 - 4800                                   | 3250 - 5320                                   |
| Bromodichloromethane               | 4290                         | 2.4                      | 3460 - 5530                                   | 2900 - 6050                                   |
| Bromoform                          | 2270                         | 2.5                      | 1590 - 2970                                   | 1320 - 3240                                   |
| Bromomethane                       | <1000                        | -                        | -                                             | -                                             |
| 2-Butanone (MEK)                   | <1000                        | -                        | -                                             | -                                             |
| tert-Butyl methyl ether (MTBE)     | 6860                         | 2.2                      | 4990 - 8370                                   | 4360 - 9250                                   |
| Carbon disulfide                   | <1000                        | -                        | -                                             | -                                             |
| Carbon tetrachloride               | 3910                         | 6.3                      | 2720 - 5080                                   | 2400 - 5380                                   |
| Chlorobenzene                      | <1000                        | -                        | -                                             | -                                             |
| Chlorodibromomethane               | 1420                         | 3.6                      | 1060 - 1800                                   | 920 - 2030                                    |
| Chloroethane                       | <1000                        | -                        | -                                             | -                                             |
| 2-Chloroethylvinylether            | <1000                        | -                        | -                                             | -                                             |
| Chloroform                         | <1000                        | -                        | -                                             | -                                             |
| Chloromethane                      | <1000                        | -                        | -                                             | -                                             |
| 1,2-Dibromo-3-chloropropane (DBCP) | <1000                        | -                        | -                                             | -                                             |
| 1,2-Dibromoethane (EDB)            | 2300                         | 7.5                      | 1870 - 2780                                   | 1670 - 3010                                   |
| Dibromomethane                     | 3210                         | 3.6                      | 2650 - 3850                                   | 2430 - 4200                                   |
| 1,2-Dichlorobenzene                | <1000                        | -                        | -                                             | -                                             |
| 1,3-Dichlorobenzene                | 8940                         | 3.1                      | 6960 - 11200                                  | 6510 - 11500                                  |
| 1,4-Dichlorobenzene                | 9090                         | 3.0                      | 7160 - 11400                                  | 6720 - 11200                                  |
| Dichlorodifluoromethane (Freon 12) | <1000                        | -                        | -                                             | -                                             |
| 1,1-Dichloroethane                 | <1000                        | -                        | -                                             | -                                             |
| 1,2-Dichloroethane                 | 1940                         | 2.8                      | 1490 - 2440                                   | 1020 - 3190                                   |
| 1,1-Dichloroethylene               | <1000                        | -                        | -                                             | -                                             |
| cis-1,2-Dichloroethylene           | 3620                         | 1.0                      | 3120 - 4270                                   | 2430 - 4910                                   |
| trans-1,2-Dichloroethylene         | <1000                        | -                        | -                                             | -                                             |
| 1,2-Dichloropropane                | 8600                         | 3.4                      | 7070 - 10200                                  | 6530 - 10600                                  |
| cis-1,3-Dichloropropylene          | <1000                        | -                        | -                                             | -                                             |
| trans-1,3-Dichloropropylene        | <1000                        | -                        | -                                             | -                                             |
| Ethylbenzene                       | 8320                         | 7.2                      | 6610 - 10300                                  | 5710 - 11200                                  |
| Hexachlorobutadiene                | 6530                         | 3.2                      | 4880 - 8750                                   | 1560 - 11700                                  |
| Hexachloroethane                   | 10500                        | 4.2                      | 7150 - 14200                                  | 4080 - 17500                                  |
| 2-Hexanone                         | 18100                        | 19                       | 10600 - 23700                                 | 9040 - 28400                                  |
| Isopropylbenzene                   | 7550                         | 1.4                      | 6290 - 9970                                   | 5740 - 10700                                  |
| Methylene chloride                 | 7310                         | 3.5                      | 4890 - 9500                                   | 4030 - 10300                                  |
| 4-Methyl-2-pentanone (MIBK)        | 8990                         | 10                       | 5430 - 11600                                  | 4880 - 12200                                  |
| Naphthalene                        | 5080                         | 18                       | 3270 - 6500                                   | 2610 - 7020                                   |
| Nitrobenzene                       | 8080                         | 30                       | 1960 - 10600                                  | see (2)                                       |
| Styrene                            | 5110                         | 4.4                      | 4200 - 6390                                   | 3970 - 6640                                   |
| 1,1,1,2-Tetrachloroethane          | 5680                         | 6.7                      | 4560 - 7040                                   | 4150 - 7270                                   |
| 1,1,2,2-Tetrachloroethane          | <1000                        | -                        | -                                             | -                                             |
| Tetrachloroethylene                | 1440                         | 1.9                      | 1060 - 1870                                   | 841 - 2140                                    |
| Toluene                            | 3730                         | 4.0                      | 3010 - 4480                                   | 2610 - 4910                                   |
| 1,2,4-Trichlorobenzene             | 2140                         | 7.2                      | 1540 - 2630                                   | 1570 - 2720                                   |
| 1,1,1-Trichloroethane              | 9670                         | 4.5                      | 7400 - 12100                                  | 7190 - 12400                                  |
| 1,1,2-Trichloroethane              | 6090                         | 13                       | 4880 - 7310                                   | 4260 - 8000                                   |
| Trichloroethylene                  | 8710                         | 4.6                      | 6860 - 10900                                  | 6090 - 11400                                  |
| Trichlorofluoromethane             | <1000                        | -                        | -                                             | -                                             |
| 1,2,3-Trichloropropane (TCP)       | 7410                         | 4.7                      | 4450 - 10000                                  | 3700 - 10400                                  |
| Vinyl acetate                      | <1000                        | -                        | -                                             | -                                             |
| Vinyl chloride                     | <1000                        | -                        | -                                             | -                                             |
| m-Xylene                           | 3810                         | -                        | 3080 - 4720                                   | see (1)                                       |
| o-Xylene                           | 1740                         | -                        | 1410 - 2160                                   | see (1)                                       |
| p-Xylene                           | 3610                         | -                        | 2920 - 4480                                   | see (1)                                       |
| Xylenes, total                     | 9160                         | 6.5                      | 7410 - 11400                                  | 6410 - 12300                                  |